

PROF. CHAS. J. ESSIG.



Filling Approximal Cavities, Involving the Occlusal Surfaces, with Tin and Gold.

By DR. FREI HERR VON BEUST, Dresden, Germany.

Not mentioning the well known methods of treating simple cavities, I desire to call the attention of my fellow practitioners to a time-saving and tooth-saving method of filling approximal cavities involving the occlusal surfaces, with tin and gold.

The profession is so familiar with the value of this filling material, with its mechanical and therapeutic action, low conductivity to heat and electricity, as well as its compatibility to tooth structure, that it scarcely deserves mention, nevertheless, it may be of interest to some to know just what proportions of these metals to use in given cases.

<p>Proportions of Tin and Gold.</p>	<p>My custom is to keep ready rolled two or three books of different sized cylinders of gold one part, tin, one part; gold five parts, tin one part; and gold eleven parts, tin one part, hereafter designated as one to one, five to one, and eleven to one, respectively.</p>
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One to one packs almost like amalgam, will unite very quickly by electrolysis, and gets almost as dark as amalgam in most cases. Five to one packs less readily than one to one, unites almost as quickly by electrolysis, and keeps a dark mottled gold color. Eleven to one packs almost like, but more firmly than soft gold, does not unite as quickly as the foregoing and keeps a color closely resembling that of pure gold. With this stock of material at hand, every case demanding this class of work can be treated.

The easiest cases to treat are those having a flat bottom, parallel or nearly parallel sides, a slight undercut and a free opening on the occlusal surface. (Fig. I.)

Method of Filling.

Having the cavity to correspond as nearly as possible to this form, select a stiff matrix which fits tightly into the space between the teeth, or if such a one cannot be found, wedge one there. This is of paramount importance. I have tried and discarded every form of band matrix which has come to my notice, as being totally unfit for this work. The matrix must be absolutely unyielding to all pressure which is to be brought to bear upon the material. For wide spaces I use the Miller matrix; for narrow ones, which will admit a single thickness of metal only, a matrix devised by myself (Fig. 2), the rounded corners of which

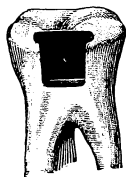


Fig. 1.



Fig. 2.

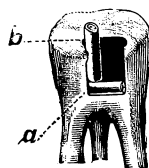


Fig. 3.



Fig. 4.



Fig. 5.

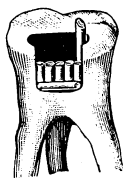


Fig. 6.

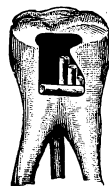


Fig. 7.

will enable one to force the matrix between the teeth without cutting the fingers, and which furthermore has the advantage that it can, by shaping it with a pair of contouring pliers, be made to give the filling any desired contour.

Having adjusted the matrix, begin by laying a flattened cylinder of one to one across the bottom of the cavity (Fig. 3-a), pressing it well against the matrix and cervical edge. Selecting a thick cylinder of five to one, or eleven to one, whichever is to be used in the case, the diameter of which equals the distance antero-posteriorly from the matrix to the dentine, and long enough to reach from the bottom of cavity to about one-third of its length over the occlusal enamel, place it vertically (Fig. 3-b) against the buccal or lingual wall and press it against the matrix and side of cavity.

Now treat the opposite wall in the same manner and the result will appear as in Fig. 4. Take care to select cylinders which will each time reach the bottom of the cavity, add to each side alternately until the case represents Fig. 5. Now the case is ready for wedging.

Although I am in the habit of using self made wedge-shaped instruments for this purpose, it can also be done by the aid of the pliers alone. Introducing the pliers between the cylinders and spreading the mass literally, add tightly rolled cylinders until the cavity will admit no more and proceed to condense. Here I would like to call attention to the fact that the free ends of tin and gold cylinders, unlike those of soft gold, can be bent upon themselves, knit into each other, and, with the aid of a strong serrated plugger, be made to coalesce so as to defy attempts to separate them. Condense until the mass ceases to respond to pressure.

Contrary to the advice of many, I finish with the automatic mallet, and find that with the aid of large pointed, finely serrated instruments, I can make a surface unequaled by anything that can be gotten by any other means, and one that will resist all tendency to scale.

After burnishing the surface with large ball burnishers, remove the matrix and finish as one would a gold filling. If the cylinders were well placed and selected, the burnishing will complete the operation. If any dressing be necessary, however, a corundum point is preferable to a plug finishing bur. Always leave the fillings with a high polish.

In filling very deep cavities, to insure through condensation, it is necessary to fill with two layers of cylinders (Fig. 6), applying the same principles to the respective layers, taking care to condense the lower layer perfectly before adding the top layer.

The irregular shaped cavities (Fig. 7) are much more difficult to fill than the preceding. The only directions that can be given are, proceed as with the simple cases, taking care to fill under overhanging walls with short cylinders first, as explained in engraving, before introducing the long cylinders.

In choosing between the proportions of five to one or eleven to one, I am governed by the retaining form of the cavity as well as by its position in the mouth. Five to one will work more easily and harden more quickly than eleven to one, while eleven to one has the advantage in color.

It can be said that in the proportion of five to one, this material, if properly packed, will stand in any mouth nearly five years of daily use, to the exclusion of gold or amalgam, in such cases as herein described, without a single case of breaking down.

Is Dentistry a Liberal Profession ?

By T. B. HECKERT, D.D.S., Wayne, Neb.

I once heard a physician say he wished he could get away from the money side of his profession ; that is, he loved to practice for the good of mankind, but despised to place a money value on his services.

I wonder how many dentists have felt that way? I have had the feeling at times. I think I can say without successful contradiction that all men are entitled to the best service we can give them, regardless of their financial condition.

There are thousands upon thousands of people in this land who appreciate the benefits of dentistry and are regular in the care of their teeth ; but there are others and more who for some reason do not care for them. I take it, if we are members of a liberal profession, it is our duty to find this cause, and if possible remove it.

In the town in which I practice, there are two dentists and both are busy, but I am satisfied in my own mind from observation, that if all the people who need dental work should become regular in the care of their teeth, it would require ten instead of two to take the proper care of them.

There are more reasons than one why people are neglectful of their teeth, but my purpose is to call attention to but one ; that is the expense involved.

To this class, I think belong the great majority. There is no doubt that the income of the greatest number barely suffices for the actual necessities of life, but, unfortunately, there are a great many who are not educated up to that point, although they are learning fast considering the youth of our profession.

To the average dentist who has a mixed practice of the rich and the poor, the price of his services comes up continually, and the conscientious one is handicapped thereby. He has the mistress and her maid ; the sewing woman and the poor washer woman ; the rich farmer and his hired man ; the professional man and the laborer. As I said in the start, each and every one of these is entitled to the best service we can give them, not only for their own good, but for the good of civilization in general. But here again comes the money question. While the rich banker might be able and willing to pay one hundred dollars for a piece of bridge work, his clerk, while perhaps needing it as badly, could not possibly afford to have the needed work done, and must put up with inferior work to meet the condition of his purse.

It is not necessary to cite cases to prove my point, because we all

know how continually this is coming up to worry and perplex those of us who feel that our work is not entirely for the money there is in it, but that we are a part of the great healing profession and our duty to humanity.

The poor, I know, make a great many sacrifices that their teeth may have the proper care. As I write, I think of one case which might serve to illustrate.

A poor woman who had two daughters just verging on womanhood, brought them to me to have their teeth examined and to inquire the cost of the work. I had put the fees as low as possible, knowing their circumstances, but still she felt that she could not afford to have the work done. Not long after, a small-pox epidemic broke out in the town and the mother was employed as a nurse, she having had the disease, consequently being immune. In this way she was enabled to earn more than she could have expected under ordinary circumstances. As soon as the quarantine was lifted, she came in with the girls, had the needed work done and paid for it. It is unnecessary to comment on this to show the anxiety of the mother for the welfare of her children, and the sacrifices she will make for their benefit.

Any dentist could relate cases like this unless his practice were exclusively among the wealthy. To me these cases show that we are not reaching all of those who are ready and willing to do their part in the care of their teeth had they the means. Do not misunderstand me. I am not referring to paupers, but to that class of self-respecting people whose incomes are limited. Charitable work would not reach these at all; it is not what they want.

**A Remedy
Suggested.**

I believe the health of the citizen is just as important as his education. The State sees to it that all may have education; furnishes it free, and in some cases, forces the child to attend school whether he wishes to or not. Why not have State control of the public health as well? That is, all belonging to the healing profession should be organized as State officers, and be paid for their services by the State. Let the individual have his own private doctor or dentist if he wishes, but have the State doctor and dentist that any one may go to and be served without charge except as he pays in taxes.

Our public school system is a good illustration of what I mean. We have our public schools for all. In some States not only education is furnished free, but books as well. Some do not attend the public schools, it is true, but no one can say that private schools are better than public. Our State universities rank as high as any in the land.

Some would no doubt say a public employee would not be as com-

petent as one in private. That is not true, because the professors in our high schools and universities will rank as high as any in our private schools and colleges, although most of them are miserably paid.

This is an age of commercialism, but I believe the trend is toward the nationalization of the industries of the country. Our forefathers builded better than they knew when they gave us public education. If it had been left to private industry to establish schools in this country, we certainly would not have had the intelligent citizenship we have to-day, because only the few would have had any education, the great mass being in ignorance.

In conclusion, I wish to say that we, as a liberal profession, should work to bring about State control of public health, that all may enjoy the benefits of the skill that modern dentistry and medicine can give them.





The Shell or Telescope Crown.*

By HART J. GOSLEE, D.D.S., Chicago, Ill.

VII.

(Continued from page 21.)

(Seamless Method: Advantages. Disadvantages; Time, Strength, Adaptation, Detail of Construction; Primary Band, Bite and Impression, Preparing Model, Casting Flasks, Dies, Forming Blanks, Swaging, Adapting and Re-enforcing.)

Seamless Method.

The seamless method comprises forming the entire crown with one piece of gold, by swaging, and, while many *systems* for this particular style of construction have been devised, and are used, a close observation of the relative advantages and disadvantages as compared with the sectional method fails to afford any real or practical evidences of special merit in this process.

It is claimed by those using and advocating this method that a closer reproduction of the natural tooth form is possible, and that greater opportunities for more pronounced contouring are afforded, from which assertions it is deduced that more artistic results may be obtained.

As such results *from any method of procedure*, however, are *equally* dependent upon the skill, ability and conscientious efforts of the operator, and, as the presence of a joint between cusp and band is in no way objectionable if the prerequisites previously mentioned have been observed, any actual or *practical* foundation for such a claim is scarcely apparent.

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If it were still necessary to depend upon a *limited* selection of cusp forms, which were difficult to adapt to the average properly contoured band without the use of considerable solder and much filling in, some advantage might be possessed by a method which would afford a smooth continuous crown, but, in view of the possibilities already outlined in this connection, the real value of the seamless method will doubtless always remain more appreciable to the "dental laboratories," and others commercially interested, than to the average practitioner of ordinary skill.

A summary of the possible advantages of this method presents but two special features: First, the opportunities for obtaining contour, and, second, the absence of a joint or seam of solder at any point.

The *first* feature needs no consideration, because, as has been previously asserted, the possibilities of, and opportunities for, contouring, are not entirely dependent upon the process employed, and in no way exceed those offered by the sectional method in so far as the actual requirements are concerned.

In considering the *second* feature, the absence of a joint or seam of solder may be proclaimed as an advantage in *three* instances of detail. First, in eliminating the possibilities of the subsequent discoloration of the solder in the joint, when subjected to the action of the secretions. Second, in the construction of a platinum crown which is to serve as an abutment for porcelain bridgework. Third, in the construction of a gold crown for the bicuspid where a porcelain facing is to be subsequently inserted.

In the *first* instance, if the edges to be united are *closely fitted* and *approximated*, the quantity of solder in the joint is so infinitesimal that if a high grade of similar color be used, and the crown then well finished and polished, no opportunity will be offered for any subsequent discoloration; hence, no special advantage is apparent.

In the *second* instance the same advantage may be readily obtained by permanently overlapping the edges of the band in making the joint, and closely approximating the edges of cusp and band, and then using *platinum solder* in their union. This will preclude the re-fusing or unsoldering of the parts in the furnace during the process of fusing the porcelain; and the additional thickness of platinum which may be used when the sectional method is employed adds materially to the necessary strength which such a crown must possess in that particular portion of it *which surrounds the root*.

In the *third* instance the advantage is perhaps *least* imaginary, but if the joints of the sectional crown intended for such a purpose are made as has been indicated, the subsequent attachment of the facing with a lower grade of solder may be done without danger of re-fusing them. This may

be also further prevented, if any doubt exists, by previously coating the solder in such joints with a solution of whiting in water or alcohol before attaching the facing.

The features of this style of construction which
Disadvantages. are of a more or less pronounced disadvantage, in a general way, lie in a consideration of the essentials of time, strength and accuracy of adaptation.

The detail being more circuitous, a greater
Time. length of time is necessarily consumed in the process. If better results by this method than by any other were possible, this should not necessarily be a consideration, but it becomes a matter of much concern when equally good results may be obtained by another method in *less* time.

The fact that a much thinner gauge of metal
Strength. must be used to begin with, and that it must then be subjected to considerable stretching, is conspicuously a disadvantage, because of the extreme thinness and consequent weakness of the finished crown. While sufficient re-enforcement of the occlusal portion may be afterward made, the band, where equal and uniform *strength* is usually required, must remain inherently weak, or be stiffened at the expense either of the root or of the contour.

As a degree of accuracy *must* be insured in the
Adaptation. process, the adaptation to the root of a primary or temporary band is necessary. This, however, in one particular is a disadvantage, because, irrespective of however accurate *it* may be, each subsequent reproduction of a given form is less accurate than the original, unless they may be stamped in indestructible and unyielding dies, which qualities are not possessed by fusible alloys, such as are used for the dies in this work.

Detail of Construction.

While there are many and varied methods of detail for the construction of seamless crowns, but *one* general line of procedure will be found to give results which are sufficiently reliable to insure an approach to the necessary degree of accuracy.

This constitutes taking a measurement of the root, after its preparation, and making and fitting a *primary* band, the exact shape and conformation of which is then subsequently reproduced in the finished crown.

The primary band may be made, preferably, of
Primary Band. 32 gauge copper, cut to ordinary width, the exact length of the measurement, with straight edges, and soldered as usual. Or a seamless band may be made by selecting the

drawing punch over which the circular measurement will fit most closely, and then drawing a blank down to this same size. By then punching out the top, a seamless band results, which approximates the size of the root as closely as the measurement fitted the punch. Those preferring the latter usually have a selection of these blanks already drawn to various sizes, which is an economy of time.

When the band has been made, it should be trimmed and fitted to the root with the same degree of care and precision as though it were intended for permanent use. It should then be cut away upon the *buccal* and *lingual* surfaces until but a narrow rim remains, allowing the approximal surfaces to remain sufficiently wide to be closely adapted to the adjacent teeth. (Fig. 90.) By so shaping it, a perfect restoration of the contact points may be made, and increased opportunity is afforded for forming, shaping, modifying or exaggerating the buccal and lingual surfaces as may be desired.



Fig. 90.

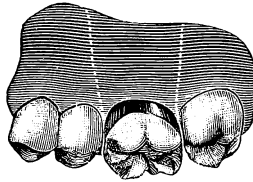


Fig. 91.



Fig. 92.

Bite and Impression. When the fitting and trimming has been completed, the bite and impression should be taken.

While this is often done at one and the same time, with wax or modeling compound, a *separate* bite in wax, and impression in *plaster* is preferable, and safer, because of the uncertainty of *replacing* the band in its *exact* and *proper* position in the former materials.

When these have been secured, and the band accurately replaced in position in the impression, the model should be obtained, the bite adjusted to it, and both securely mounted upon the articulator. After separating, the surfaces of the adjacent and occluding teeth should be varnished and the band and space filled with thin, well-mixed plaster, and the articulator firmly closed.

This portion of the procedure and the subsequent carving and shaping of the plaster is almost identical with the detail previously outlined in carving cusps, and all of the necessary artistic work must, of course, be

done at this stage, because the permanent crown will be a close reproduction of this model.

The only difference in the detail is that the form and alignment of buccal and lingual surfaces is obtained by shaping the plaster, instead of contouring the wider band, and that it should be done *without* detaching the band from the model, and also that the plaster should be left flush, even and continuous with the band, instead of being trimmed to expose its edge as for a swaged cusp.

When the necessary carving has been completed, **Preparing Model.** the model should be detached from the articulator, and trimmed down until only enough remains to form a base for the crown, as indicated in Fig. 91.

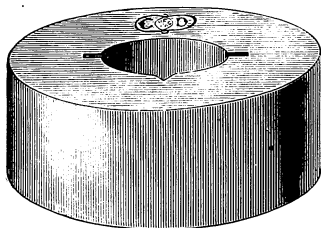


Fig. 93.

(Half Size)

This plaster base is then trimmed, so as to be favorable for, and facilitate handling during the process of securing the die, and to give adequate depth or body to the latter. The plaster base immediately adjacent to the *cervical* portion of the band should be cut away sufficiently to expose the full thickness of the edge, which thus stands out in the die and indicates the outline, after swaging, to which the finished crown should be trimmed. (Fig. 92.)

Various designs of casting flasks have been devised for the purpose of serving as a matrix in securing the dies with fusible alloy. Much similarity of principle exists between them all, and the one which is a part of the Seamless Crown Outfit, manufactured by the Consolidated Dental Manufacturing Company (Fig. 93), is simple and conveniently adequate for such purposes; though those designed by Dr. W. H. Trueman (Fig. 94a) (which must be held in a vise while swaging), and the Berry Dental Manufacturing Company (Fig. 94b), will be found to favorably meet the requirements.

Dies.

In securing the die, the plaster model containing the crown should be *thoroughly dried* to prevent a bubbling of the metal, dusted with lycopodium, and then placed on a smooth level surface of steel or mouldine, so as to rest firmly and sustain a perpendicular position and the casting flask placed over and around it.

A piece of thin cardboard should be adjusted to the grooves in each side of the flask, and trimmed to *follow the outline* of the model (Fig. 95).

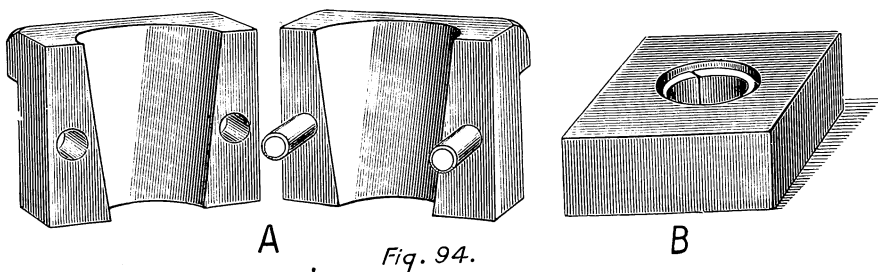


Fig. 94.

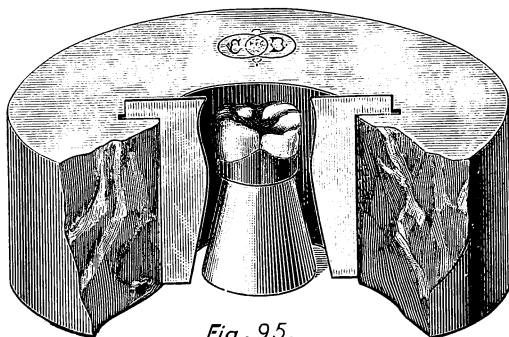


Fig. 95.

These are intended to facilitate the subsequent separation of the die into two lateral halves, but should not come in contact with the model at any point.

The flask should then be filled with fusible alloy, poured when in the *plastic* state, in order to insure a smooth, well-defined casting, and to facilitate the separation of the crown from it.

Another method is to first fill the flask with the molten alloy, after adjusting the cardboard, and then firmly force the model into the center of the metal just before the process of crystallization takes place, holding it in position until it has thoroughly hardened. If done just at the right

moment, this method is productive of good results, but the procedure is somewhat more uncertain than the former.

After chilling the metal with cold water, it should be removed from the flask and the cardboard detached. By inserting a chisel into one of the grooves thus formed, and striking it a moderate blow, the die may be easily separated into two parts. (Fig. 96.) The model is now removed from the die, and the parts may be readjusted to proper relation, and replaced in the flask, which possesses a guiding notch to insure proper readjustment, and which holds them securely together during the process of swaging the crown.

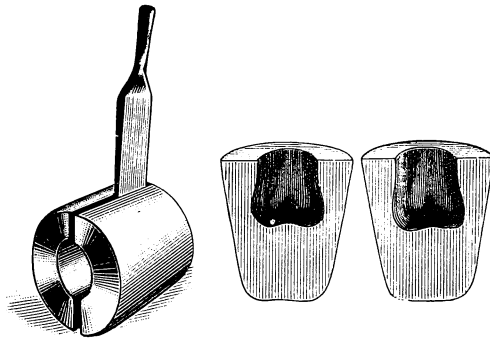


Fig. 96.

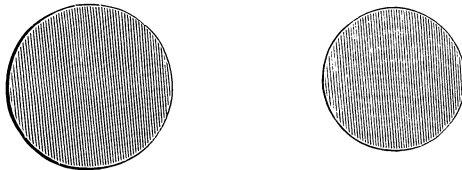


Fig. 97.

Forming Blanks. The seamless blank, or cartridge, which is to be conformed to the desired outline of the permanent crown, by swaging, should now be formed.

For this purpose all of the "Systems" or "Outfits" contain or include a steel plate with perforations, the diameters of which range consecutively from the largest to the smallest useful sizes, with a set of steel punches correspondingly graded.

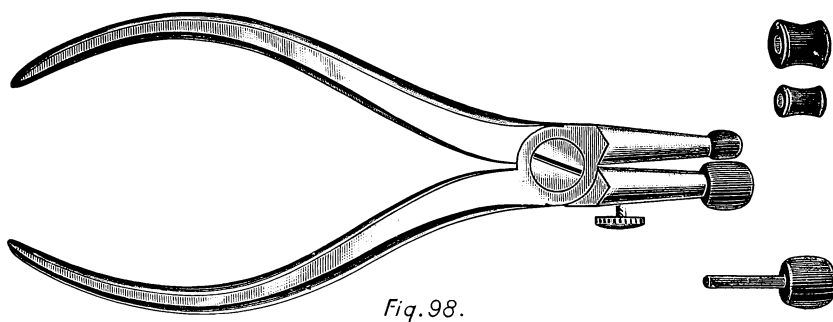
A disk of 22 karat gold, not thicker than 30, or thinner than 32 gauge, should be procured. These are prepared by the supply houses in various sizes. The two sizes most convenient for molars and bicuspid are illus-

trated in Fig. 97 and may be symmetrically cut from plate by using a copper disk, or the end of a drawing punch as a guide.

These disks are formed into the blank by driving them through the holes in the plate with the drawing punches, beginning with the largest size and passing through *each* consecutive perforation until the blank is reduced to a size which will admit of its being gently forced into the die.

If a seamless *primary band* has been used, the size of the drawing punch last used in its formation will, of course, indicate the size of the blank required, and the size or number should be designated or remembered.

The gold should be *annealed often* during the process to prevent tearing, and slightly oiling the end of the punches and the interior of the perforations will be found advantageous in facilitating the drawing and preventing the blank from sticking to the former.



The *drawing press* designed for this purpose by Dr. W. M. Sharp will be found useful. It may be securely fastened to the bench and the blank is drawn by means of a screwpress instead of driving, which results in its being drawn more uniformly than by intermittent blows.

When the blank has been formed to the desired size, it should be cleaned in the acid bath, and then annealed. The surface of the die should be oiled and the blank *gently* forced well down into place with a blunt piece of soft wood of suitable size, and a small hammer.

Any excessive surplus of band may be previously trimmed away to facilitate swaging, but care should be exercised not to trim too much.

The interior of the blank should be filled with a substance which will spread readily and evenly when pressure is applied, but which may be *easily removed* at any time during the process.

Oiled birdshot, cornmeal, pumice stone, small cubes of modeling com-

pound, base-plate gutta percha cut into small pieces, pledgets of moistened cotton, or cotton previously saturated with melted wax, and tin foil rolled into small globules are used.

The swaging is then accomplished by driving a blunt piece of wood, or the end of a drawing punch a few sizes smaller, into the blank thus filled. If necessary, the gold may be removed and annealed several times, though once after starting and *during* the process is all that is usually required.

When the swaging has been completed, the surplus should be trimmed away to closely follow the outline indicated in the band, and the crown *slightly* heated and subjected to the acid bath, when it may be re-enforced with a lower karat of plate gold, *rolled thin*, or a high karat of solder, and finished.

If the finished crown should be too large, it may be reduced with pliers before re-enforcing, or if much too large as a result of compressing the walls of the die during the process of swaging, may be first cut in two lateral halves, left in the die, and another crown swaged inside of it; or if too small, which is rarely the case, it may be stretched sufficiently with pliers. Where some expanding or compressing of the bulbous portion may be indicated in order to improve the contact with adjacent teeth, the rotary point contouring pliers designed by Dr. C. W. Miller will be found useful (Fig. 98).

While many of the various "systems" provide means for securing the *model* from a selection of typical forms of approximate sizes, from which the dies are made; and for securing the outline of the occlusal surface by subsequently swaging in a typical die-plate, or other similar manner, the possible results obtained from such methods do not merit consideration because of being but little, if any, more accurate than ordinary *ready-made* crowns.

(To be continued.)





A System of Retaining Springs for Partial Plates and Removable Bridges.

By W. E. GRISWOLD, D.D.S., Denver Colo.

Read before the New Jersey State Dental Society at Asbury Park, July, 1901.

This system consists of a series of springs, made from a new alloy of metals, discovered by myself, after some four years of experimenting, which will stand the action of the oral secretions, and a heat sufficient to flow 22 karat gold solder, and at that degree not lose its high elasticity. As presented to your notice these springs are punched from this metal, and by a series of steel dies brought to the form in which you see them.

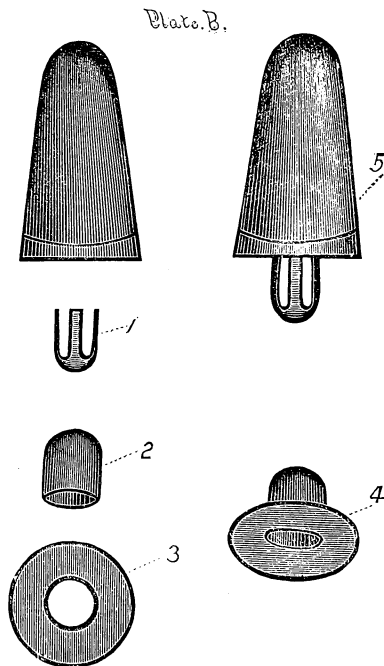
I will first call your attention to that part of the system which necessitates the cutting off of crowns of teeth. To a root capped in the usual way I simply solder the spring stud, shown at figure 1, plate B, and cover this with a capsule made of platinum and iridium, carrying over it a disk shown at figure 3, adapting very closely to the root cap; then waxing 2 and 3 together, remove them and solder, making what I call my crown cap, on which all superstructure is placed.

In practical work, after capping abutments, we take an impression and bite at the same time in wax, and place this on the articulator. This is merely for reference, a means whereby we can ascertain the position on the root cap to solder the springs so they will not interfere with placing a facing in front of them, and also determine the size to use and the length we can have it without interfering with the occluding teeth.

We now take an impression of the capped roots and edentulous parts. If caps have not come away with the impression, remove and place in their respective places before running the model; cover the inside of caps and the surface of the pins with a film of wax. When the model is made (preferably of sump, or some other non-shrinkable material) shave it perfectly smooth and level on the

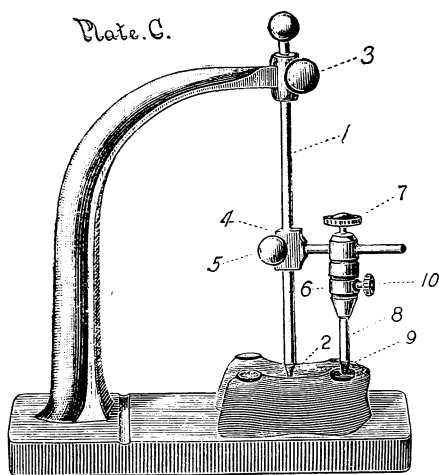
bottom, and if for any reason you want your bridge to go in on one side the heel or toe, first, shave it so that it will tip a little that way. Now warm the caps enough to melt the wax, remove them from the model, and after melting out all the wax replace them.

We now take the soldering jig, plate C, warm its base and put a sheet of base plate wax over it and press the model into this softened wax, and fasten with the centering pin No. 1, clamp with the nut No. 3. By observing the model on the articulator, you determine where on these root caps you can best place the stud without interfering with the bite, and also allow a facing go in front of it; also the length you can have them, and the right size to use.

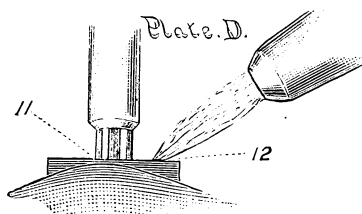


Take this stud and hold it over a Bunson burner until it is a dull red, but do not throw it into water to cool it, as it makes it stiff again and brittle. Place it in the open end of soldering chuck 8, plate E, this in jig chuck 6; fasten with nut 10, bring it to the position you wish to occupy on the root cap, and observe the angle to which it must be filed to fit accurately; loosen nut No. 7, remove all these parts, and using them with a holder with a fine cut gold file, cut to the desired angle. Replace, tighten nut 7,

see that No. 8 is in line with the centering pin, and tighten all nuts. Flux, place a bit of solder inside the spring, and solder as in plate D, using the pointed flame, held on to the root cap until solder has flowed down and fastened all together. Now loosen nut No. 5, raise up arm No. 4, which brings the root cap with it, loosen nut No. 10, take out chuck 8, remove the spring and root cap—see that the two are firmly united, and if not, hold in a pair of pliers and complete the soldering so that each leaf of the spring is soldered solid to the root cap. Now place a bit of vulcanite rubber over the pin and carry down to the edge of root band. Place the pin in a vise, so that the cap rests on the jaw, the thin edge of the band being protected by the rubber. Take the special pliers No. 13, plate E, place the capsule as at No. 14, carry this over the stud. Observe the angle



to which it must be filed to fit the root cap around the base of the spring perfectly. Take special punch No. 15 for the size capsule used, punch in a piece of plate large enough to cover the root cap and extend over it, on the side of the saddle, making

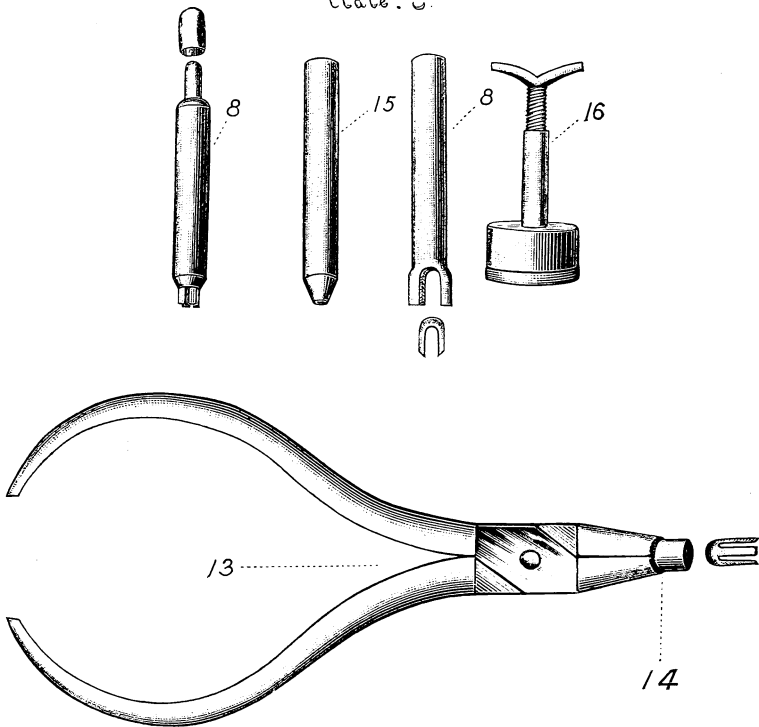


a hole which just fits over this capsule. Carry it to a position, and adapt perfectly to the surface of the root cap, wax the capsule and this plate together, remove and solder securely. Replace, then thoroughly adapt the crown plate to the root cap again, so that nothing can get between them. If this is a bit loose, do not worry, it is all the better, as it facilitates easy working, and you can tighten when the work is in the mouth, by a very slight tap on the end.

Proceed with each abutment in the same way; when complete, pull off the crown caps. Replace each root cap with the spring stud soldered to it on the roots in the mouth. If you use a saddle (this being previously made) place in position, replace crown caps over their studs, and as they extend over the root caps on the side next the saddle they hold it in position—now take a bite. Then select a suitable cup, punch a hole in the bottom

corresponding to the shank of impression prop No. 16, place cup and prop in the mouth, see that it forces the saddle where you want it when the patient bites on the rubber cushion. If the case necessitates the use of two or more of these props, while the patient is biting on them take a piece of wire and go from one to the other on the outside of the cup, twisting it around each prop and binding them all together, so that when subsequently replaced in the mouth, they will go in exactly the same position. Now fill your cup with plaster, carry it to position, and have the patient bite

Plate. 8.



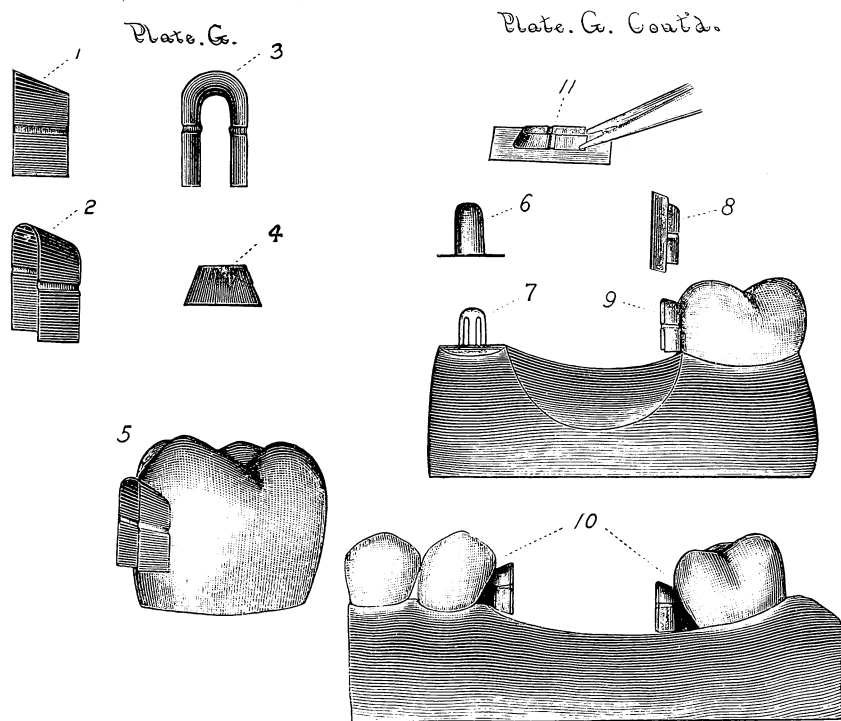
firmly on the props which force your saddle against the soft tissues with exactly the same pressure that will be exerted in subsequent use. Force up your tray and get an impression of all the parts, in this, their true relation, when in use. When hard pull out the root caps and lay aside for polishing. Place a match or some piece of wood in the crown caps, so that it will extend well into the model.

Make a model of plaster and set up on an articulator with the bite. Take a bit of sump, or some other non-shrinkable substance, and build

upon this model, over the crown caps and saddle, enough so that you can remove them all together; turn over and solder all together on the side which comes in contact with the soft tissues; replace on the model, and finish in any way desired.

**Use in
Connection with
Shell Crowns.**

There are some members of the profession, and probably many patients, who will object to the amputation of crowns, but would prefer to have shell crowns put over teeth ground down. To accommodate these people I have made these springs in a

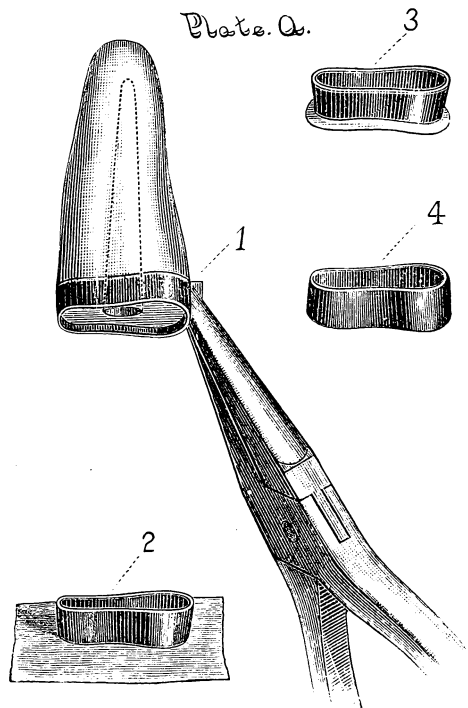


different form, but just as serviceable. A wedged-shaped U spring with a depression in its sides, which, when the next size is slipped over locks the two together, as seen in different positions in plate G. No. 1 is a side view, No. 2 a three-quarter view, No. 3 a front view, No. 4 a top view, and No. 5 a three-quarter view soldered to a crown.

These springs are made in dies, the same as the others, and in three sizes. So that one size can be used as a box for the other, and for all porcelain work, the two larger sizes are made for higher fusing.

With the outfit comes two soldering chucks, one for the small size,

and one for the second size, with a milled groove in the open end to hold these springs in position for soldering to the crowns, and in perfect alignment, by placing them in the chuck of the soldering jig plate C. One of these chucks is shown in plate E, figure 8. The method of procedure is similar to that described for the spring stud. You simply take your impression of the abutments, and wax up the inside of the crowns so that when the wax is melted they can be removed from the model. Make your model of sump, and place on the soldering jig, as before described. Select the proper size spring for the place, either No. 1 or 2. Take this



spring and pass it through the flame of a Bunson burner until it is a dull red to anneal it, then file it to the proper length to fit the crown; set it up on a piece of gold, drawing the open ends slightly together, so that it will be a bit narrower at its base than at the upper end, and solder on the inside. Now take this, and lay it, narrow side down, on another piece of gold plate, fitting it perfectly. Flux it, placing a very little solder inside again, fuse it over a Bunson burner, soldering the two firmly together, not allowing the solder to flow upon the spring any more than can possibly be helped. Place this on its proper soldering chuck, put this chuck in jig

chuck, bring it to the position on the mesial or distal side of the crown you wish to occupy. By soldering this piece of plate on the side of the spring coming in contact with the crown, it reinforces the crown at this point. This enables it to resist the force brought to bear on it in mastication. You now take the next size, slip over it, filing to the same width and length; lay this on a piece of plate, as at 11 G, springing the ends slightly together with pliers, and holding in this position with them, as No. 11 shows, solder on the outside, previously placing inside some whitening dissolved in alcohol, to prevent any possibility of the solder flowing inside, and spoiling the perfect fit of this box for the spring. Now remove your crown from the model, which is easily done on account of the wax having been melted, and force the box over the spring stud. It will probably go over very hard and stiff, sometimes it will be necessary to use a pair of pliers to force it on and remove it, but after doing this two or three times, it is put on and taken off more easily. But the accurate adaptation which you get in that way is essential to perfect work.

Plate G shows a model with gold crown at one end with springs soldered to it, box 8, ready to go over it and be fitted to the saddle, shown in position on the model; at the other end stud 7, soldered to a root cap, with its crown, plate 6, ready to slip over it. When both are in position you take an impression as before with sump, of these parts on the model. When hard remove and solder all three parts together, the crown, plate 6, the box, 8, and the saddle.

Place your abutments on their respective teeth or roots, put your saddle with its abutments, Nos. 6 and 8, soldered to it, in position, take a bite, and your impression, make a model of plaster, set up on an articulator, and proceed to finish the work in any way you like.

At 10 is shown a model with abutments setting at an angle, the springs soldered on parallel, and the space between the spring and cap filled in with plate and solder making a very solid attachment.

In making this attachment, remember that the spring is altogether in compressing the outer edge, or larger diameter of the U-shaped wedge spring. The box must be made in such a way as to compress its sides when it goes over and be rigid.

My claims for this system are the ability to restore the contour of the soft tissues and give harmonious expression to the face; ability to avoid the display of gold, and to make in porcelain the most artistic and lifelike denture known.

Second, even in the cheapest work, vulcanite, give your patrons something much more artistic, something held firmly in place, but removable by the patient for cleansing, and the occasional rests which the abutments need to restore to normal tone the overstrained surrounding tissues. It

also divides the strain between the abutments and the endentulous parts; also supplies a temporary denture which will not irritate the recently lacerated tissues, and can be replaced at any time without changing the abutments or attachments with more permanent work. The attachments hold with more tenacity than is necessary, but the tension can be made greater or less according to the strength of the abutments.

It affords opportunity to bridge space not possible by any other system, and attachments can always be tightened, should they wear loose; the spring studs by slight tap on the end; the U springs by spreading a little with a pair of pliers.

The Dental Profession as Viewed by a Layman.

By SAMUEL HAMLET.

Delivered before the Second District Dental Society on Oct. 14, 1901.

My remarks this evening are given I hope with all due modesty, for I feel that I am hardly equal to some part of the demand that is made upon me. I certainly could not attempt to instruct any of you in anything that pertains to your profession, nor would you, as sensible men, expect that of me. You would only anticipate, by reason of the announcement that has been made, that I am to speak to you from the point of view of a layman—something that would lie outside of the general practice, something that others might be thinking of concerning you, while you are engaged in the furtherance of some of your most difficult undertakings. And indeed I wish to make that as a point during my remarks—they are most arduous and very difficult, and upon them hinges at times the success of the individual upon whom you are operating.

I have a particular pleasure in speaking to an audience of dentists—medical men—doctors of dental surgery. It means far more, I think, than the world generally apprehends. For the minds of most laymen go back to the time when in the performance of difficult undertakings, done at so much expense in the producing of such exquisite mechanisms and in the study required; to the time when these things were not thought of very much account—to the time when the barber was the surgeon and the medical man was the individual who was then called the “yarb doctor.” Times have changed. My particular pleasure comes from the fact that I have two brothers who are members of this profession, and of one of them I take great pride in saying it, simply because I appreciated the dental pro-

fession so highly that I asked the privilege of one of the most excellent gentlemen of your profession, Dr. E. Parmly Brown, of naming another student for him. When the opportunity offered itself I said, "Brother Brown, I wish to nominate as the successor to the outgoing student in your office my brother." He is now one of your vice-presidents, I believe.

Many individuals find a great deal of difficulty in grasping substantially the meaning of theological subjects. When you and I were scholars in the Sunday school our minds were very hard to fasten on the lessons taught us. I have no doubt you will all sympathize with the condition of the little boy who was going to Sunday school one hot Sunday morning. The road was very dusty and he took off his shoes, not wearing socks, and, fastening them together by the strings, he swung them over his shoulders. Presently he was overtaken by a gentleman who was driving in a fine carriage and, being generous-hearted, the gentleman said, "Little boy, would you not like to take a ride with me?" Never was a little boy, under such circumstances, loath to take advantage of such an opportunity. He got in and placed his shoes under the seat. Said the gentleman to the little boy: "Where are you going?" "To the Methodist Sunday school," answered the little boy. "I am going to the Baptist Church, some distance beyond, and I can take you all the way." As they drew near to the Methodist Sunday school the gentleman said: "You are not going to put your shoes on?" "No," said the little boy. The gentleman was aware that it was allowed for little boys to go to Sunday school in that section without their shoes on. "Well," said he, "if you are ready before I am, wait for me here, and I will take you home. Leave your shoes under the seat. If I am ready before you, I will wait for you." Agreeing upon that, they separated. The little boy sits in the school, and the teacher reads the lesson to him, and by a remarkable coincidence it is the story of Dives and Lazarus—Dives feeding sumptuously and Lazarus at the gate, eating the crumbs from the rich man's table. After she had read the lesson to him, she wanted to see how much attention the little boy had paid; but the little boy had not followed the trend of the story. "Johnny," said the teacher, "where did the rich man go?" He looked at her, and was surprised indeed to know that she was aware of what he had been doing. "Why he went down to the Baptist Church, ma'am." She was now puzzled. "No, Johnny," she said, "he went to hell!" "But, good heavens," said Johnny, "he has my shoes!"

Now, gentlemen, you see how necessary it is for even the lay mind to bring concentrated attention to bear upon intricate subjects, and your profession certainly is one of them. It is necessary for us to know you, in order to appreciate you. For instance, when an individual goes into your

chair, and does not sufficiently well locate the molar that has been causing such trouble, and you, accidentally, of course, pull the wrong tooth, by your suavity and logic you make the poor patient who has suffered at your hands go away thinking it was a great deal better for him to have the wrong tooth extracted, because it has given more room for the other teeth to develop. I do not mean to say I have lost a molar under such circumstances, but I have heard of others who have, and it is not always necessary for us to obtain knowledge at first hand. The individual who keeps his eyes well open does not always have to suffer because of others' experience. He makes, by observation, the experience of others his own, and profits by it. It is both time and money to him.

Your society, I assume, is like unto all other societies. It is formed for a certain purpose, and that purpose is to elevate the profession. To my mind there is a demand for very serious thought for those who become members of a society which is composed of professionals, whose calling is of such importance to humanity as this one of dentistry. Its utility and the utility of all other professions depends upon the individual impulse of the person who joins it. What is the impulse that should actuate the mind of a member of the profession joining this society? That impulse is composed of parts, and if it is composed of all the parts necessary to make up the whole, then surely it is the grand impulse. I may not be guilty of extravagance if I say that you, joining together all the parts that constitute the true impulse, could very well have it said of you that it was a noble impulse that caused you to organize this society. It is something that one ought to think of—this matter of doing something, not only to benefit one's self in a pecuniary way, but also to elevate mankind; to make mankind better able to endure the trials and pains and everything evil that comes to the individual in this life. In order to have that true impulse it is necessary for one to be on guard, for, I tell you, you are no exception to the rule that prevails in other professions. You must watch and be careful that the impulse does not suffer degeneration. For if we look upon other institutions we can see that there the impulse has degenerated. Look, for instance, at the church. There was a time when the Gospel, preached as it is not preached today, was sufficient to hold the members in that close communion which was necessary to make of each separate congregation a great phalanx, to fight all sin that was in them and battle against something which was outside of their bodies. And now, in order to stimulate that impulse, the Methodist Church must have a worldly kind of sociable where ice cream and cake and lemonade are circulated for the purpose of creating the social feeling, thus bringing them together so they may make better attendance of the church.

Look at the law. There was a time when every member of the law was taught that to be a true lawyer he must be an officer of the court. As such officer he must assist the judge in sifting the evidence, that there may be a decision based upon justice. Is that the way our jurisprudence today is carried on? By no means, and I cite you as an evidence of that an article written by one of our judges, now in print in the *Century Magazine*. There he deplores the fact that the lawyer is degenerating. The office lawyer is all right, but when as an advocate he stands before the jury to show his forensic ability, to battle against his antagonist, then he resorts to all sorts of expedients, in order that he may win. Therefore the stimulation in that case is not the true stimulation. It is one that proceeds from a selfish ambition to be able to attract a larger clientage, to make the law no longer a profession, but a scheme by which he can make money.

In the same way your profession can suffer its professional idea to be degenerated. You, too, can look upon it only as a scheme by which you can make money. But that will not give you the greatest harvest. You may be able to ride in a coach; you may be able to have rich furnishings and be luxuriant in your surroundings; but there is one grand thought that ought to actuate every human being, and that is what this human family is. We are all alike in a thousand respects. We are only different in the manifestations proceeding from similarity of thoughts, of feelings, of sentiments; but basically, fundamentally, we are all alike, and that grand bond unites you and me not only in a professional way, but in something that is deeper than what we call a professional bond, for that bond can never be broken. It constitutes the advance and makes sure the elevation of mankind, but only by the union of action on the part of the individual members of the human race towards the elevation of the whole.

Alluding to the impulse that should actuate each member of a profession that does good to humanity, I would speak to you for a moment of one of the great classical workers, a man who has made himself immortal by his works—Phidias, the Greek sculptor—three centuries before our era. The voice of that mighty people, the Greeks, said: "We must have something in our midst that will be as it were eternal, sublime, an object that is beautiful. Who shall do this grand deed?" Among others, they chose Phidias; but after he had estimated this mighty labor, he said to himself: "I am not equal to it. I will seek the oracle, for I must have the true impulse before I begin." He sought the oracle, and it saw that it must lead him on. "Your hand," it declared to him, "possesses the skill. Go forth now and do the deed that thy hand is capable of." And so Phidias began his work, and as he worked he felt there was something better than all he could do with his hand. He drew the lines, and he made the chisel follow them accurately; but it was not sufficient, and again he sought the oracle.

The oracle knew the man, and again it spoke: "O, Phidias, the thing thou createst is correct in form now. Thou must invest it with a nobler quality. Give it that which thou dost think the highest and the best," and the desire came to him to make it one of beauty. So the impulse proceeded from his hand to his head, and a thing of beauty grew. But still he was unsatisfied. He wished something more should come forth, and the oracle said, when he went again to seek its counsel and advice: "Phidias, thou didst lack one thing, and I will try to summon it from the deepest part of thy being. Thou dost need something to vitalize that which thou dost, which will go down the centuries and be a powerful impulse in the minds of those who do work like unto thine, so thou wilt voice a hymn in stone. Voiceless it may be, yet will it speak in eternal tones." That high impulse was aroused and Phidias performed his work. It was now not only the skilful product of the hand, nor of his thought from whence emanated his work; it had also become the child of his heart, and why? Because he thought of the humanity he could elevate. The thought of what he could do for ages to come, through others whom his work would stimulate. This led him on.

I would recommend you, gentlemen, to sentiments of that nature. It is not necessary for you to be so modest that you will not hold up your heads among professions which are considered of greater importance. Yours is as important as any. The artist sits in his studio and paints something he has sketched from nature. But you are working upon nature herself. You are preserving, you are giving to nature not only the work of decoration, but also that of preservation—not only the preservation of the teeth, but the preservation of the man, of the woman. Physiologically speaking, you are at the base of all the sciences, and of all the teachings that go to make up the true physical man. You need not hesitate, then, in your claims, to overstep the physical bounds and enter also upon the realms of the moral. For a sound mind can only be in a sound body, and a sound body depends a great deal upon sound teeth.

How much, then, is due to you for man's advancement? When we think of the unity of the sciences, how they are more closely grouped today, you can make a claim in behalf of your services to man which overlaps that of surgery on one side and of the medical profession on the other. As you present these claims, with that true dignity that belongs to you as a useful body of professionals, I do not doubt but that your right will be acceded to on the part of both the other professions. They will recognize your claim and they will hesitate, in the practice of surgery and medicine in infringing upon your field, as I know you hesitate in infringing upon theirs. You can, only by a good knowledge of surgery, know when the surgeon is more necessary than yourself, and the surgeon, by a true knowl-

edge of dentistry, can best know when the dental doctor is more necessary than himself. Thus there will be an interchange of ministrations and the establishment of good fellowship and harmony of action, which will result in great benefit to the human race.

Your influence, too, is one that has its effects upon posterity. Through biological sequences we can readily follow your influence. You have a great part in directing life. What is a man in his internal organization? Simply defined, the internal system of man is an alimentary canal that is fringed at the opening with teeth. Now, then, let us reverse the process of eating and begin with the last step previous to the great distribution of the nourishing part of the food we take. Back of that there lies the process of chylification; then the chymification. Previous to that there was the act of deglutition, next the swallowing process, before that the insalivation and previous to that mastication by the teeth. Now, did not that all depend upon dentition? So then your profession is at the very base of the nourishing part of the human system, and some go so far as to say that upon the coffee and rolls one takes at breakfast depend the thought of man, and unless they are well masticated the thought will not be good.

Have I been illogical, have I not been logical, in making this superb claim, that upon dentition depends the whole man? What is a foundation? Is it a simple thing? Is it a thing to be ignored? Napoleon pointed his soldiers to the Pyramids of Egypt, saying thirty centuries were looking down upon them. Those pyramids never would have looked upon the desert sands if it had not been for the foundation stones that lay beneath, down out of sight.

I have heard you spoken of as a learned society. A learned society is one that is scholastic, one versed in texts. I would rather call you not a learned society, but one of the sciences itself, because I think upon science practically as well as theoretically depends your greatest advance.

So, then, we will not look for a dental doctor as one who is learned, but one who is practical and scientific, and then he is learned in a far more useful sense than a man who is simply bookish; for I think that practical minds, when they turn their thought toward the benefit of mankind with the impulses that I have tried feebly to depict to you, will be the ones of most use to mankind. You are now becoming more and more a moral factor in society, for the argument is as true of you as it is of good religion and roads, that morality depends upon you, and indeed upon the perfection of everything that is useful morality depends.

Everything has its contribution to the higher advance of mankind, and it contributes most when it is entered upon by a body of men who are heart and soul engaged in their work, not for the chinking bits in their pockets, but because of the love they have for man. You know what that

impulse has done in the past, and whatever it has done in the past it is a thousandfold better able to do in the future—it certainly is as much need. As you survey the past you have a limited horizon, but as you survey the future your horizon grows unlimited. More and more, no doubt, it grows upon the thinking dentist what power his profession has for the benefit of humanity. I would not attempt, nor would I desire to stimulate you unnecessarily so that you would evince too great pride, such a pride as might degenerate into a conceit concerning the profession you are engaged in. I am much with men of the legal profession. I talk with them a great deal, and I read the newspapers considerably. If you have had an experience of like character, you have heard words of praise emanating from the press, and from the legal profession, too, concerning their professions that would make you feel that they had an abundant conceit concerning the benefit they confer upon mankind. I do not speak derogatorily of the press, nor of the legal profession; but I mean to say that the journalism of the present day could be a thousand times better, and the legal profession of today could be a thousand times more beneficial. We might go even farther and make a criticism of that body called the clergy and say they, too, might wear their robes and preach their sermons with a better grace, if they were not so worldly and hesitated more than they do to conform to worldly things, in order to bring audiences before them.

There is a great strain put upon us, because of the appeal that is made to us by the different modes of living at the present time; but I would take this train of thought now and say that there is a religion of the practical in your work honestly performed, as there is in the work of all other professions. We do not have to go to the church to get religion. Every dentist who stands over his operating chair, doing his work conscientiously, as though it were a duty to perpetuate the good they love, and every lawyer who so engages, and every editor who writes his editorial, doing it in order that some good may come from it—that man is doing his work religiously, for the religion of today is becoming one of simple goodness. I mean the intent, the desire to do something better, or to make something better than it is. That is religion today, dissociated from doctrine, and they who perform their daily deeds in that way are seeking the kingdom of heaven, and we are told to seek that first, then all things will be added unto us.

I think, gentlemen, that these are primary impulses. I do not say they are for you alone, by any means. I would ask you also to turn this stream of thought upon myself, and say, "You, too, should follow your own preaching," and I would as readily say it to all other professions, that if this world is to be made better, it depends upon the honest, sober, judicious thought that is put into every man's work. The idea of the solidarity

of mankind should be in the mind of every man, that he must be elevated by man, that no influence exterior to the human will be brought to bear upon him, that he must put his own shoulder to the wheel and lift himself up—not the single man, but the single man co-operating with a single humanity; then he will bring into his thought, into his mind and his soul that feeling which prevailed in Abou Ben Ahdem:

“Abou Ben Ahdem (may his tribe increase)
Awoke one night from a deep dream of peace;
And saw within the moonlight in his room,
Made rich and like a lily in bloom,
An angel, writing in a book of gold.
Exceeding peace had made Ben Ahdem bold,
And to the Presence in the room, he said:
“What writest thou?” The vision raised its head,
And answered, “The names of those
Whom love of God has blessed.”
“And is mine one?” said Abou; “Nay, not so,”
The vision said. Abou replied more low,
Yet cheerily still; “Write me there
As one who loves his fellow-men.”

“The Angel wrote and vanished. The next night,
Appeared and with a great wakening light,
He showed the names of those whom love of God had blest.
And lo! Ben Ahdem’s name led all the rest.

Thus, gentlemen, it is true, that in the complete record of our lives the highest, the best thing that can be said of each one of us is that in the discharge of our duties, whether professional or otherwise, we did it with the impulse that it should be done for man’s benefit.



Moisture and Weak Tooth Structure.

By DR. F. F. HAWKINS, Troy, N. Y.

Read before the Third District Dental Society of New York, Oct. 15th, 1901.

I wish to state a proposition: Just in proportion to the moisture within a tooth, is its structure weak and vulnerable.

Moisture is defined as: "that which makes damp," "liquid in small quantity"—and it is the presence or absence of this moisture within a tooth that often counts for or against success in dental work.

The teeth never remain in a static condition. They are either progressing, healthfully, toward their highest efficiency or they are retrograding. They never, never stand still as regards the proportion of their constituent elements. The enamel, and its fibres, the dentine and its canals of myxomatous tissue, the cementum and its lacunæ of protoplasm, all are changing, ever changing.

The heart in its labor is forcing with each beat to the extremist peripheral point, the fluids of the circulation—carrying, if the person is in perfect health, the tooth forming material necessary for perfect construction, and laying the foundation for the greatest resistance against attack. If, however, the person is in ill health and remains below par for any great length of time, the heart's action fails to build the part, and the tearing-down process begins and continues until dissolution is accomplished. Why is this? It is because the function of nutrition has been disturbed. The food, the drink, or the air taken in by the person has been insufficient, or impure. The tooth material has not been supplied to the blood corpuscles, and when the circulating fluid ramifies the tooth structure it is not the good and faithful servant it was during health, to deposit the minute particles of lime salts, and renew the tired medullary tissues so that they can continue their work and vigils joyously—they cry out for help which does not come, until weakened by neglect, the parts, like the soldiers of a deserting general, begin a retreat with each ebb of the heart's tide until all that would have so gallantly withstood the attacks from without, had they been reinforced, have fled, leaving little but moisture for defense—and when our little explorer passes through the softened enamel and the patient cries out, we know the past history of the case, and see our trouble ahead.

**Boedecker's
Views.**

Boedecker says: "Enamel was for a long time considered to be a deposit of purified lime salts, a coat of mail destitute of life, but researches have demonstrated the presence of living matter *between* and *within* the enamel prisms, and consequently affirms that enamel is a tissue

with properties of life." He says: "Nothing, however, was known as to the seat of life in dentine until myself and others endeavored to prove not only that dentinal fibres, and their coarse offshoots are formations of living matter, but that the basis substance, so rich in lime salts, is traversed by an extremely delicate fligree of living matter as well. With the facts before us, we may attempt to approach the solution of a hitherto insoluble riddle—the nutrition of the dentine and enamel. No close observer will doubt that the nutrition of the teeth is, and must be, an active one. This is proven not only by the growth of these tissues, but also by the same tissue's strikingly rapid loss of lime salts in constitutional diseases, such as neurasthenia, anemia and even pregnancy. How are the lime salts deposited in the dentine, and how can they be removed to such a degree that dentine originally hard becomes in a few months soft and resistless? Looking at the dentinal canaliculi with the highest powers of the microscope, we see between the dentinal fibre and the walls of the canaliculus a narrow, light space, evidently filled with liquid, which serves for the carrying of nourishing material to the dentine, and for carrying of effete material away from it. We are prepared to acknowledge the possibility that in living dentine, the living matter proper is at no time perfectly at rest; that on the contrary it is contracting, slowly but continuously and through its contractions it not only stirs the surrounding columns of liquid, but pumps, as it were, nourishing material *into* the minutest fields of the dentine, or away from them.

"The chemical character of the liquid may explain the dissolution of a certain amount of the lime salts deposited in the blocklets of the basis substance, which salts, thus being rendered effete, may be carried into the lymphatics of the pulp, and thence into the lymph system of the body for further elimination. Why in one instance nourishing material should be carried from the blood vessels of the pulp *into* the dentine, and in another instance carried *away* from the dentine into the lymphatics, we are unable to understand.

"What I have stated concerning the tissue of dentine, unquestionably holds good for the tissue of enamel also, and every dentist must have observed instances of softening of the enamel as the result of constitutional ailments. Recalcification—rehardening of the enamel is certainly a fact. The structure of the enamel fibres, between the prisms as well as those traversing the latter, points to the identity of the process of nutrition, and denutrition with that of the dentine."

The dentine and enamel receive their nourishment through the blood vessels of the pulp, while the cementum which is an ever-growing portion of the tooth—thickening as age advances, and deriving its supply from the pericementum is liable to mutations through good or ill health. Dr. Black

seems to have given the dental profession the impression that all teeth are the same—that is, that there are no soft teeth and no hard teeth, but just teeth. Dr. Taft in recent remarks on this point says:

**Dr. Taft's
Views.**

“Every practicing dentist recognizes the difference between the structure of one tooth and another; some cut easily with chisel and burr, while with others it is almost impossible to break down. Now, this is not so much a difference in the structure of the teeth, so far as the constituents of the teeth are concerned, but a difference in the relation of the enamel rods one to another. If these two teeth were analyzed chemically, you will find as large a percentage of lime salts in the one as in the other. This difference is simply due to the arrangement of the enamel prisms, and not the chemical difference in structure. In some cases the prisms run more regularly, and radiate straight out upon the dentine, one beside the other, and the cement substance which holds these prisms together is easily broken down. In other cases these prisms are wavy, irregular and hold firmly together, and it would be necessary to break across a prism in order to fracture the structure. But the truth is, that the teeth which are so resistant to our instruments, may be just as readily attacked and broken down by the cause of caries, as would be a poorly constructed tooth. The point I wish to make is this, it is more a question of environment, the conditions surrounding the teeth, than tooth structure itself, which makes the difference in susceptibility to decay.”

**The Author's
Views.**

Now, here is Dr. Taft trying to explain Dr. Black, and what has he done? He has misled us decidedly. For when he says: “Teeth which are so resistant to our instruments may be just as readily attacked and broken down by the cause of caries, as would be a poorly constructed tooth,”—and when he farther says—“the point I wish to make is that environment, and not tooth structure has more to do with susceptibility to decay”—he tells us something which we have a pardonable right to doubt when we consider how the tooth is nourished, and how it is *de-nourished*. If we will consider a single tooth, in the mouth of a perfectly healthy person, one who has been perfectly nourished from birth, we follow in our minds the building of that tooth as the blood vessels come freighted with the proper tooth pabulum, with the vital force within the tooth busily functioning to construct enduringly, packing the lime salts so carefully that attacks from without will find no vulnerable point—shaping the little canals for the future highways through which, to bear the nutrient material to build and build till life ends. This is the history of health, and the tooth constructed under its supervision will withstand all the accidental environments which may overtake it. But, again, let

us follow the building of a tooth in the mouth of a person, who through life has been in ill health, and fought every day to live. We find the vital force in this tooth tired and weary—the blood supply which comes to it is always deficient in lime salts, always deficient in protoplasmic elements, so, that, work as hard and faithfully as it can the vital force constructs but a poor home for its future occupancy, its wall are porous, and its rooms are large and full of moisture. This tooth is vulnerable at any point, or *en masse*. This, gentlemen, is the difference between good and poor tooth structure, and it must play an important part in our work. In severe and exhausting sickness the poor tooth goes to pieces quickly because its poor structure makes it liable to attack from within, even the material which has been so begrudgingly brought to it is taken away, the parts are broken down and withdrawn for use in other parts, the vital force is so weakened that it permits the invader to enter and take out the basis substance and give in return just a circulating fluid. This is the time when tooth environment may be spoken of as an agency of decay. The environment is there for the same reason that the tooth is deficient in lime salts. When the organs of the body fail to function normally—from whatever cause—then is the time when the weak tooth suffers from within, and from environment also. The causes which rob the internal structure of the tooth of its resistance are the same causes which pour vitiating secretions over it, and blow corroding gases from the stomach, and poisonous exhalations from the lungs on it.

The tooth of a ten year old, and the same tooth at fifty is strong in proportion to the absence of moisture. Take, for experiment, a plaster tooth that is thoroughly dry—dried for months—perhaps for years, and you will find it is hard to cut or carve. Now dip this same tooth in water and note the change in its crushing resistance. There is no more, or no less lime in this plaster tooth than before, but the moisture has lessened the cohesion of its mass. Again, take this same dry plaster tooth, and place a small pellet of cotton dipped in C. P. sulphuric acid against it on one side, you will notice very little change. Now, from the opposite side, with a dropper thoroughly saturate the tooth with water, and as it approaches the acid you will see the plaster tooth gradually disorganize at that point. I speak of this to emphasize the fact that weak, moist tooth structure is quite necessary to bring out the full potency of environment—and this brings me around to my initial assertion—that just in proportion to the moisture within a tooth, is its structure weak and vulnerable.

Southern Dental Society of New Jersey.

The third annual meeting of the Southern Dental Society, of the State of New Jersey, was held in Camden, Jan. 15th, 1902, President O. E. Peck presiding.

The report of the Executive Committee showed the Society to be in a most prosperous condition. The treasurer's report revealed a gratifying state of affairs financially.

After the usual routine of business was disposed of the annual election of officers for the ensuing year was held, resulting as follows: President, C. P. Tuttle, Camden; vice-president, J. G. Halsey, Swedesboro; treasurer, Mary A. Morrison, Salem; recording secretary, F. M. Smith, Camden; corresponding secretary, T. V. Smith, Philadelphia.

At nine o'clock, the members of the society, invited guests and friends adjourned to the large dining hall immediately adjoining the rooms of the organization and partook of the good cheer for which the annual banquets of the Southern Dental Society are becoming celebrated.

The scene presented by the long line of animated faces expressing good fellowship in its highest sense, the floral decorations and charming women in evening dress will not be soon effaced from the memories of those present.

The first of the guests to respond to Toastmaster Duffield's call was Dr. Geo. E. Adams, of South Orange, president of the New Jersey State Board of Dental Examiners. His remarks upon the general conditions prevailing in the profession of dentistry at the present day were well received with the close attention always paid Dr. Adams' views on dental matters.

He was followed in happy vein by the following distinguished gentlemen: Dr. Chas. A. Meeker, of Newark; Dr. H. S. Sutphen, of Newark; Dr. F. G. Gregory, of Newark; Dr. W. G. Chase, of Philadelphia.

Those of the members of the Society who addressed the company were: Drs. C. P. Tuttle, J. G. Halsey, Mary A. Morrison, A. Irwin, W. W. Crate, J. A. Waas, J. E. and W. A. Jacquette, H. B. Campbell and J. F. Lummis.

During the course of the evening, the Southern Dental Society was dubbed the "Baby," on account, presumably, of its tender age, but those who were present will admit that it is about the healthiest baby they ever saw. The only thing, in fact, it complains of is—growing pains.

FREDERICK M. SMITH, Recording Secretary.

Camden, N. J.



New Jersey State Dental Society.

Thirty-First Annual Meeting, Thursday, July 18, 1901—Evening Session.

Discussion of Dr. Griswold's Paper.

Dr. R. C. Brewster,
Brooklyn.

I have adopted this system in preference to my own, which is somewhat older, and I believe it to be a very good thing. It must, however, be done very accurately and carefully. I have several cases in process of construction now. I have one case which is a cancer case, where the roof of the mouth has been very badly eaten away and find this system admirably adapted to the requirements. There is one thing which I might say pleased me very much, and that is the fact that the fixture may be entirely of porcelain.

Dr. E. G. Maynard,
Englewood, N. J.

In cases where you want to use porcelain with the high fusing bodies, do you use the iridio-platinum?

Dr. Griswold,
Denver, Col.

In my work I do not use anything but very high fusing bodies, and I use iridio-platinum always. Where you have your denture entirely of porcelain you must have something which will stand great heat, and I think I will be able to produce it so as to stand any degree of heat. In my experiments with this metal, I have found up to the present time that we must use an alloy of iridio-platinum, thirty per cent iridium and sixty per cent platinum, but it has not the elasticity of this special metal of which I have spoken.

Dr. Maynard.

Are the instruments for doing this work on the market as yet?

Dr. Griswold.

They are not on the market any further than that I sell them myself. The only agency I have was made when I was in Boston. I placed the agency for New England with Dr. Stone Eddy, who is going to establish an

office in New York where they will have the outfits and supplies on sale and will put up the outfits for anyone who cares to have it done in that way for experimental purpose, before investing in a full outfit. I do not put them in the hands of dental goods dealers for this reason: they all must make a profit out of it, and it would so increase the cost to the dental profession that what I now sell for thirty dollars would cost about fifty dollars. I know this from talks with the S. S. White people. Then, too, I am trying to keep it in the hands of what I call the reputable practitioners of dentistry. It is understood we do not sell to advertising men, although, of course, despite our care, it might possibly get into their hands.

Dr. L. S. Gilbert,
Denver, Col.

This would seem to be a more complicated system from the reading of the paper, than it really is. I have been for some time in Dr. Griswold's office and have seen a great many of his cases, and I believe it to be one of the best systems there is. The use of mechanical appliances in prosthodontia is not regarded as it should be. Many dentists think it hardly worth while to take pains with mechanical work, but there are a great many patients who would appreciate better work of this class.

The matter of handling this system and putting the attachments together is very simple; any student in an office can become proficient enough to make the attachments and the work can be made just as artistic as any that the dentist does. I think it is a good thing.

Dr. Eldred Gilbert,
Philadelphia, Pa.

I do not feel able to discuss the paper, but I should like to give it my endorsement. I have been looking into this quite a little recently, and I find that it is not a difficult matter for any man who has done the nicer work of prosthodontia, for it will come easy to such, and will help them over many parts of prosthodontia that we have not been able to get over easily before. Any man who can construct a bridge under the present method can use this system with satisfaction and success.

Dr. Griswold.

I do not know that there is much more than I can say. The literature in regard to it is to a certain extent misleading, because it covers so much ground.

There are quite a number of dentists using the method, and while they are not all men who are thoroughly skilled in soldering or prosthetic work, yet they have no trouble with it. I have a great many letters from men who have not previously done a great deal of metal work who say that with their very first cases they had no difficulty.

If the system accomplishes no better results than the simple removal of unnecessary strain on the soft tissues I think it will prove a great benefit. We all know that dentures resting on soft tissues cause a great

deal of absorption, and I claim this excessive absorption is due to the pounding on the soft tissues. If you use appliances for holding a denture firm and constantly in contact with these tissues, absorption will not occur. That is my experience after eight years of observation, but I say if the system does not accomplish any greater result than the lessening of undue strain on the soft parts and the irritation caused thereby it will prove a benefit to the public and the profession.

Friday, July 19, 1901—Morning Session.

President Riley called the meeting to order.

The membership committee reported favorably upon the following names: Doctors Crane, Robinson, Fiener and Wallace. On motion the election of new members was then proceeded with, and the following gentlemen elected to membership: Dr. David C. Baker, Orange, N. J.; Dr. W. D. Knecht, Atlantic Highlands, N. J.; Dr. H. C. Scobey, Long Branch, N. J.; Dr. L. E. Estler, Arlington, N. J.; Dr. A. R. White, Freehold, N. J.; Dr. Frank L. Manning, South Orange, N. J.; Dr. Richard Boyden, Red Bank, N. J.; Dr. H. S. Zerfing, New Brunswick, N. J.; Dr. Charles C. Tuttle, Camden, N. J.; Dr. George W. Cupit, Palmyra, N. J.; Dr. John M. Breen, East Orange, N. J.; Dr. Frank S. Crane, Montclair, N. J.; Dr. W. T. Robinson, Freehold, N. J.; Dr. S. G. Wallace, Lakewood, N. J.; Dr. J. Fiener, Newark, N. J.

(By unanimous consent the rules were suspended and the above members voted for collectively, the secretary, on motion duly adopted, casting the ballot).

I have a proposition to make which is a little out of the ordinary run in our society.

Dr. B. F. Luckey,
Paterson, N. J.

Most of the crack regiments in the war had their "Daughter of the Regiment," and it never seemed to do them any harm, and seemed to be a source of great honor to them. Now we have in our society a member respected and honored by us all, who has been to us a friend and associate for years; in this gentleman's family is a lovely girl, the daughter of the house, and her father has said to me that if he dared to come here without his daughter it would break her heart. She is acquainted with most of the members, and I think that every one who knows her is fond of her. I propose both as a compliment to her father and as a pleasure to our members, as an honorary member of our society, Miss Mary Schuyler Williamson Hull, the daughter of our honored treasurer.

The above proposition was duly seconded and carried unanimously amid loud applause, and the president announced Miss Hull duly elected an honorary member of the New Jersey State Dental Society amid loud cries of "Speech," to which cries, however, Miss Hull did not respond.

On motion the regular order of business was then resumed.

Dr. Sanger proposed the following amendment
Dr. R. M. Sanger. to the by-laws:

Any dentist a practitioner in a sister State, being in good and regular standing in his own State, may become an associate member of this society upon application, election and payment of the regular dues of this society. Such associate members shall have all the rights and privileges of this society excepting those of voting and holding office.

On motion the above amendment took the regular course.

**Election of
Officers.**

The society then proceeded to the election of officers for the ensuing year, the result being as follows: President, Dr. William L. Fish, Newark, N. J.; vice-president, Dr. Frank L. Hindle, New Brunswick, N. J.; secretary, Dr. Charles A. Meeker, Newark, N. J.; treasurer, Dr. Henry A. Hull, New Brunswick, N. J.; executive committee, Dr. A. W. Irwin, Camden, N. J.; Dr. Herbert S. Sutphen, Newark, N. J.; Dr. W. W. Hawke, Flemington, N. J.; Dr. Oscar Adelberg, Elizabeth, N. J.; membership committee, Dr. Joseph E. Duffield, Camden, N. J.; chairman; Dr. J. Star Dunning, Paterson, N. J.; Dr. W. H. Mitchell, Bayonne, N. J.; Dr. William H. Pruden, Paterson, N. J.; Dr. G. L. Holden, Hackettstown, N. J.; member of examining board, Dr. W. E. Truex, Freehold, N. J.

Dr. G. Carlton Brown presented the report of the board of examiners which on motion was accepted as submitted.

The report is as follows:

Report of State Board of Examiners.

ASBURY PARK, July 18, 1901.

Mr. President and Gentlemen: The State Dental Examining Board would report that at the October, 1900, meeting 9 candidates out of 12 passed and were duly licensed.

At the July meeting out of 38 examined 21 passed without condition.

At the last meeting of this society a resolution was adopted calling for the appointment of a committee on prosecution to consist of a member from each county in the State, who was to look after cases of illegal practice in his territory, secure necessary evidence for the prosecution, and see that the same were brought to trial.

The Board received the list of the County Prosecutors the last of January of this year, and immediately the secretary wrote to the prosecutors of eight counties, placing cases and the names of illegal practitioners in their hands, with the request that they secure evidence in these various cases, and have an action brought at once, assuring them at the same time that the State Board would stand back of them and give every assistance possible in the matter.

They were further requested to communicate with the secretary of the Board and keep him posted as to what is being done.

Up to the present time we regret to report that, not only have the prosecutors failed to take any action in these cases, but they have even neglected to answer (with two exceptions) the letters sent them or to acknowledge receipt of the documents forwarded with same.

The two exceptions noted were requests for further information, which was furnished, but to our knowledge no action has been taken in either case.

Much fault has been found with the Board for its failures to prosecute in more cases, but the preceding statement will show under what difficulties we have labored. Without the assistance of the local practitioner it is impossible to secure the necessary evidence, and while the very man who is asked to supply the evidence is invariably the complainant, just as invariably does he refuse to supply not only evidence in prosecution, but to assist in any way.

It was thought that by the appointment of these county prosecutors this difficulty might be overcome, and while up to the present time it too seems to be a failure, we hope that after a proper understanding of the matter has been attained it may work satisfactorily.

At the October meeting of the Board by unanimous vote the resignation from the N. A. D. E. was withdrawn.

It is most satisfactory to note that the teaching in the schools is constantly assuming a higher grade, the fact being plainly demonstrated at each succeeding examination.

The last examination was held under the most trying circumstances, the temperature being such as has seldom been experienced. In spite of this the examination was surprisingly satisfactory to the Board.

We would further report that while the reciprocal interchange of licenses with the State of New York was interrupted for a time, the same has been renewed, and at present there exists a full and free interchange between the two States, who stand for all that is best and of the highest standard in dentistry.

At present we stand alone, but with the hope and assurance that before long all of the progressive States will come under the same banner,

and stand with New York and New Jersey in demanding a higher standard of professional ability and preliminary qualifications, we look for a free interchange of State licenses, so that after having once passed an examination of a specified grade, the practitioner shall never be forced to submit to the trying ordeal again.

Respectfully submitted,

DR. GEORGE EMORY ADAMS, President.

DR. F. C. BARLOW,

DR. CHARLES A. MEEKER,

DR. J. ALLEN OSMUN,

DR. G. CARLETON BROWN, Secretary.

Dr. G. M. Holden presented the report of the Membership Committee which on motion was accepted.

The report is as follows:

Requests to furnish the names of eligible men were sent to nearly every member of the society. The names of about sixty-five were received, and, at the meeting of the committee, held Feb. 18th, it was voted to invite them.

Nineteen applications were received. Sixteen were approved by the committee and duly elected.

G. M. HOLDEN, Chairman.

Dr. F. L. Hindle presented the report of the Essay Committee as follows:

I did not write a report, as I think the programme speaks for itself.

The Essay Committee begs to report as per programme.

On motion the above report was accepted.

Dr. Herbert S. Sutphen presented the report of the Clinic Committee which on motion was accepted.

The report is as follows:

Clinics.

The clinic of Dr. J. Austin Dunn, of Chicago, showing his method of manipulating a clamp for long reach cervical cavities, was both interesting and practical. It consists of a roll of cotton or bibulous paper placed under the lingual beak; this makes it possible to set the beak high up on the gum. Of course, the clamp must have long jaws, and made so as to open wide. The idea seems to be a good one for this class of cavities; it is less painful for the patient, and makes it possible to set the jaws so that the two

beaks are on the same plane opposite each other; hence the cavity beak is less liable to slip up.

Pyorrhea.

The clinic of Dr. Robert Good, of Chicago, included the treatment of a right upper first molar for pyorrhea. He takes one tooth at a time and thoroughly removes all deposits, syringes out the pocket or pockets with warm water, sterilized; floods pocket with C. P. lactic acid, warmed. This will destroy diseased tissue in the pockets and start healthy granulations, bringing about a union between hard and soft parts.

Porcelain Corner.

Dr. Joseph Head, of Philadelphia, showed the corner of a central that had been restored with high fusing porcelain. This had been constructed in a platinum matrix, and had been cemented into place by Harvard cement. It was, at the end of nine months, thoroughly satisfactory, and for all practical purposes the joint was invisible.

Continuous Gum Work.

Dr. J. W. Moffitt, of Philadelphia, gave a clinic on a "New Method of Tooth Attachment in Continuous Gum and Porcelain Block Work." The object of the method is the avoidance of the old or former style of grinding up, making backings, investing and soldering, with attendant risks and trouble. The plate was prepared and swaged in the usual way, and bite taken on plate. Model and plate were placed in articulator, and teeth ground and waxed on palatal side only. The teeth used were those made especially for this style of work, according to designs by clinician, and have a perforation or hole extending from the apical end crownwards to the depth of about the neck of the tooth, the root portion being somewhat thicker than usual. The object of these holes is to receive a platinum pin for attachments to plate, similar to those formerly found in teeth known as "English tube teeth," the difference being that the hole or perforation does not extend entirely through the tooth, thus concealing the pin.

The plate being on articulator, and teeth ground and waxed on lingual side in position, each tooth is individually removed and a little warmed wax placed on plate. The tooth is then replaced and removed, the wax indicating position of hole in tooth. At this point, plate is afterwards perforated for reception of platinum pin. All the pins are inserted in these perforations, and are easily soldered with a little pure gold. The teeth are then replaced on the pins and can be moved in any way required for proper antagonism, and the wax is replaced on lingual side.

Body as required is now applied to the buccal and labial portions of plate. This body should be thin so as to run into pin holes in teeth and

other crevices. The wax is then removed from the lingual portion and body applied there. The piece is now ready for first baking, which is accomplished by placing it in a tray half an inch in depth, containing enough silicate sand to support the piece during firing. The plate is afterwards finished in the ordinary way.

**Porcelain
Block Work
Simplified.**

An impression is taken of the parts, and either continuous gum or flatback teeth ground to fit case. A plaster investment is run to labial or buccal side to retain teeth in position. Teeth are taken from model in this plaster investment, and a strong backing of iridio-platinum fitted and the piece invested and backing soldered to pins with pure gold. The pins are left straight to receive a backing if piece is intended for a metallic plate. For vulcanite work, loops and spaces should be left for attachment. The teeth are then replaced on the model, which is covered with tissue paper to prevent body from adhering to the model.

Body is now placed in position and carved into shape required. The case is then removed and placed in silicate sand and baked as any case of continuous gum work.

**Cusp
Pliers.**

S. Eldred Gilbert, of Philadelphia, gave a clinic, demonstrating the Gilbert cusp pliers, and the method by which it is used for producing cusps for soldered or solid crowns, which is vastly superior to the present method of producing the cusp by means of a die plate.

The pliers are of the usual construction, about nine inches in length, in the jaws of which are fixed dies and counter dies, for producing the desired cusps. These dies are interchangeable, and with an outfit there is a full complement of the dies for producing every cusp that may be desired on soldered or solid crown work.

These dies are fixed in the jaw of the pliers and are held there by a little latch.

The cusp is produced by a single pressure of the pliers, which can be easily made with one hand, and this method enables the practitioner to produce a cusp much more quickly, with less waste of gold, and without any of the annoyance of hammering it up, as with a die plate.

This system accomplishes a saving of time, gold and noise.

Implantation. Dr. Robert Eugene Payne, of New York, gave a clinic on the "Implantation of Tin Capsule by Spreading." A young woman, eighteen years of age, good health, had lost left upper bicuspid one year previously. Dr. Payne opened the gum with heavy, blunt gum lance, cutting two flaps; trephined three-quarters of an inch deep, slightly enlarged the socket at the bottom

with rose bur; placed seamless cartridge in the socket, filled it with soft kneaded rubber, and with a plunger accurately fitting the capsule forced the rubber into the capsule, spreading it to every inequality of the socket. He removed the kneaded rubber, filling the capsule with soft gutta percha, imbedded a porcelain continuous gum tooth, with porcelain root, in the gutta percha, trimmed away the surplus, then removed the porcelain tooth, dried all of the parts and cemented the porcelain root in the gutta percha with cement mixed thin. As soon as the cement had set and the gutta percha had become hard, the tooth was as firm as any tooth in the mouth, gave no pain and could be used for masticating. The patient reported six hours later, and the next day at twelve o'clock. Gave a history of no pain or discomfort, other than a natural soreness. The tin capsule was gold plated with two layers of plating, and the surface polished. The tin capsule was about gauge thirty-eight.

**Pressure
Anesthesia.**

Dr. J. E. Duffield, of Camden, N. J., gave a clinic on the "Painless Extirpation of the Dental Pulp Under Pressure." The cavity treated was in the distal portion of a superior right first molar. After opening the cavity and developing a perfect exposure, a small portion of hydrochlorate of cocaine was mixed with water to the consistency of a thick paste, and with the assistance of a probe, placed in direct contact with the pulp; after which a small piece of spunk was saturated with ether and put in apposition with the cocaine, which immediately threw down a deposit of the alkaloid on the pulp.

A pellet of unvulcanized rubber, sufficiently large to fill the cavity, was then inserted and pressure applied by means of a broad faced concaved instrument, shaped on the outline of a burnisher. After continuing pressure for two minutes, the pulp was extirpated by means of Donaldson broaches and Gates drills. There being no hemorrhage, the canals were sterilized with a solution of two per cent formalin and immediately filled with gutta percha. Patient reported complete absence of soreness or discomfort.

**Sterilizing
Root Canals.**

Dr. S. L. Goldsmith, of New York, gave a clinic on the "Opening, Cleansing and Sterilization of Root Canals," using Butterock drills and Schrier paste. Before applying the rubber dam, which should be done in all cases, the mouth is rinsed with an alkaline antiseptic, such as borine, and then the teeth themselves with a five per cent solution of formaldehyde. The cavity of decay, if there is one, is then mechanically cleaned and washed frequently with a solution of bichloride of mercury in peroxide of hydrogen, one grain to the ounce. The Schrier paste is

then worked into the canals with Donaldson bristles and washed with peroxide solution above mentioned. After drying carefully, should it be found that the apices have not been reached, the Butterock root canal drills are used, and another application of the Schrier paste followed by the peroxide is made. The canals are then dressed with one of the essential oils, using Ceylon cinnamon in posterior teeth and oil of myrtle in anterior teeth. The coronal cavity is sealed with gutta percha, and in cases where the canals have been putrescent a small vent, about the size of a large root canal plugger is made in the gutta percha. In the latter cases, the patient is seen after a few days, the canals washed out, dressed with one of the oils and tightly sealed. After a week the canals are filled with gutta percha.

**Moss Fibre
Gold.**

Dr. L. S. Ayres, of New Brighton, N. Y., demonstrated filling with moss fibre gold, filling a left superior central large approximal cavity, using hand pressure entirely and with the instruments made by the S. S. White Dental Mfg. Co., adapted for this gold particularly. The actual time consumed in placing the gold in the cavity was fifty-five minutes, finishing about fifteen minutes, the work all being performed entirely by hand, no engine being used. The cavity was prepared prior to the meeting. This gold is very easy to manipulate, provided care is taken in not trying to use too large pieces, and is also particularly fine in repairs of old fillings where it is not necessary to replace the entire filling.

**Porcelain
Inlay.**

Dr. William C. Deane, of New York, inserted a porcelain inlay in an upper first bicuspid, mesial and crown surfaces. Small pieces of chamois skin were used for the final pressure or burnishing, with which it is possible to get very clear and sharp edges. This is a method as suggested by Dr. Elander, of the Swedish journal, *The Reflector*. Jenkins' body with a platinum matrix instead of gold was used for the baking.

**Pinless
Teeth.**

Dr. L. F. Davis, of Washington, D. C., demonstrated the "Use of Pinless Vulcanite Teeth in Construction of Bridge Work for Bicuspid and Molars."

The same abutments may be used as for other bridge work. Select pinless vulcanite teeth (preferably Ash's) for the case. Teeth must be selected which will allow, with as little grinding as possible, sufficient space between the base of tooth and the ridge for the thickness of twenty-six gauge gold plate and space for cleansing purposes.

The teeth are arranged between the abutments and articulated with the opposing teeth by grinding from under surface of tooth as far as

practical. The teeth are removed from model and their circumference taken with a dentimeter at the lower third of tooth. That part of the band which encircles the face of the tooth, may be beveled slightly so as to expose as little gold as possible. The band is trummed flush with the base of the tooth, and a piece of twenty karat twenty-six gauge gold plate soldered to the band, which now forms the bottom, to a perfectly fitted box.

The teeth, with boxes on them, are placed on the model, properly arranged and the boxes attached to each other and to the abutments with sticky wax. The teeth are removed, leaving the boxes in position on the model. This is invested, leaving only the inner and under surfaces of boxes exposed. The wax is removed, and the V-shaped spaces between the boxes and abutments filled in with eighteen karat solder, connecting boxes and abutments. The bridge is removed from the investment and finished. The teeth are set in the boxes with oxyphosphate of zinc or sulphur cement.

This method can also be used for an abutment on bicuspid teeth and for a single crown. The root is prepared similar to the preparation for a Richmond crown. A cap is made for the root, pin fitted and soldered to the cap, impression taken and model made. The tooth is selected and articulated the same as suspended teeth. A band fitted to lower third of tooth and filed to fit the cap. The tooth is removed and the band soldered to the cap, the top of the cap forming the bottom of the box. The tooth is set with cement or sulphur and the crown finished.

The claims of this method are that we have all the advantages of a porcelain bridge, in that we have no display of gold, without the disadvantages in case of breakage. By this method a broken tooth can be replaced by selecting a tooth to correspond with the one broken and cementing it in the box without removing the bridge from the mouth, which is necessary to repair a porcelain bridge.

The teeth do not pass through the fire, thus running no chance of checking. By articulating the teeth, by grinding the teeth from the under surface, the natural appearance of the cusps is preserved. Hygienically, it is as near perfect as is possible. Altogether it produces a simple, strong and artistic bridge without the inherent faults of other methods.

Dr. W. W. Dunbracco, of Baltimore, Md., gave a clinic on "Strengthening Roots for Crowning and Preparing Badly Decayed Teeth for Filling."

His object was to direct attention to the utility that may be made of the platinoid pins (furnished by the Manhattan Dental Co.) in securely anchoring fillings in badly

**Strengthening
Roots for
Crowning.**

broken down molars and bicuspsids, and for strengthening roots for crowning. The root, or roots, are first prepared, and the foramen, or foramina, sealed; then, by the means of long, narrow nose pliers, these pins can easily be inserted into the canal. They may be cut off to proper articulating length with the excising forceps and the filling inserted. Advantages: Easy introduction on account of their square edges; little likelihood of splitting the root because they are non-tapering and unlike the ordinary wedge-shaped screw; firm anchorage—made of tough metal the threads will not dull like gold screw, and lastly, will not cause discoloration to filling or gold cap, like the little iron screw.

**Bridge
Repair.**

Dr. John C. Graft, of Newark, N. J., demonstrated his new bridge repairing pliers. A new and improved method of repairing bridges in the mouth.

This system allows the use of a plate tooth, to match, securely fixing it to the bridge or crown without disturbing it.

After cutting the pins off flush with the backing, drill out the remaining ends, keeping the drill well oiled; then select tooth of proper shade, size, etc., fit the pins to the holes in the bridge; when fitted, remove tooth and spread a thin coating of phosphate cement on backing. Now with pliers, press the tooth firmly against backing so as to remove all surplus cement, keeping the pressure up until cement has become hard; then cut pins down, allowing only enough to protrude for a rivet head. Adjust pliers to tooth and rivet by a lateral motion from side to side until pin is firmly riveted to backing. Finish with corrugated burnishers.

Orthodontia.

Dr. H. B. Noble, of Washington, D. C., exhibited a number of models showing his use of the Jackson system of regulating. The models represented different stages in the process from the first impression to completion.

**Porcelain
Button Inlay.**

Dr. C. A. Meeker, of Newark, N. J., gave a clinic on the use of the small porcelain buttons manufactured by the different dental supply houses, in cases of decay in the superior and inferior molars, wherein the antagonizing surfaces are badly decayed and the walls surrounding are good, strong and firm. This small button of porcelain is manufactured in nearly every shade of color. The cavity can be cut to fit approximately the size of the button, the cement mixed to the proper consistency, the button inserted, and when hardened, the porcelain top is cut with the corundum wheel and polished to occlusion with the antagonizing surface, making a decidedly artistic appearance, a good wearing filling, and completed in a short space of time. It is understood that the dam is always used in this class of fillings.

**Platinized
Gold.**

Dr. George L. Wilcox, of New York, inserted several fillings, using Rowan's platinized gold. He began each filling with shade two and finished with rolled foil number sixty shade two. In finished fillings, less platinum shows when the rolled gold is used.

**Cusp
Restoration.**

Dr. Ellison Hillyer, of Brooklyn, N. Y., gave a clinic on "Cusp Restoration." The necessary filling of bicuspid teeth on both the distal and mesial surfaces often renders such teeth weak under stress of mastication. When the strain results in a fracture of the tooth, it sometimes leaves the outer cusp and root in perfectly good condition. To give as strong a restoration as possible to such a fractured tooth led to the construction of the gold tip.

Prepare the cavity in a manner similar to the preparation for a porcelain inlay, making the edges as nearly parallel with the axis of the tooth as possible. Prepare the root and fill the apex as for the insertion of any pivot.

Burnish thirty-three gauge gold plate, or even thinner, perfectly to the walls of the cavity; perforate this plate at the entrance to the root of the canal and insert the platinum pin which has the proper shape and length determined. Removing the plate and pin in correct juxtaposition, join by soldering as for the base of any gold backed porcelain crown. Replacing in the cavity, add sufficient plaster to carve, when hardened, into the proper contour and occlusion. When the latter is assured, remove and burnish pure gold, same gauge, over the plaster restoration from the gingival margin to the occlusion. Remove the plaster, wax the two gold plates in position and again try into the cavity. With this occlusion assured, take an impression with the tip in position; pour in plaster and sand; remove the wax and fill up the cavity formed by the two plates in position with gold solder. When cemented into the root, almost the entire strain in mastication comes upon the pin.

Experience in several cases has been most satisfactory, the outer cusp standing with no further fracture for a long period.

Crystal Gold.

Dr. O. A. Glidden, of Syracuse, N. Y., demonstrated the edge strength, density, adaptation and freedom from waste of Watt's crystal gold.

**Seamless
Gold Crowns.**

Dr. H. Igel introduced his method of making seamless gold crowns, which reproduces the individual tooth in all its details from the most pronounced contour to the finest lines and depressions. This method was perfected a number of years ago, and is used quite extensively, having stood the test for its simplicity and accuracy.

He also introduced a fusible metal which melts below the boiling point of water, and is tougher and less liable to shrinkage or expansion than the metals now in vogue.

Fusible metal alloy for making crown, dies, etc.:

Bismuth	2 lbs.
Lead	1 "
Tin	1 "
Cadmium	2 ozs.

Dr. Robt. Roessler, of Hoboken, N. J., presented the counterpart of an aluminum nose which he had supplied about six months ago, and explained the method of its attachment. When finished, the nose was painted by a New York artist.

Dr. F. L. Fossume, of New York, demonstrated the use of rubber teeth in bridge work as follows: The ordinary plain rubber bicuspid and molar as well as the small back teeth make most excellent crowns and also dummies for bridge work, in cases where these are needed posterior to the cuspid.

The rubber tooth must be, so to speak, set in gold, and this is accomplished as follows: Select suitable teeth and grind the back or palatine surface flat or nearly so, and squeeze the heads of the pins out straight. Prepare a strip of twenty-two karat gold, thirty-four gauge and three-eighths of an inch wide, and cut one end diagonally and punch a hole near the diagonal edge about one-quarter down from the pointed corner. This hole is slipped over one of the pins and the gold bent around and over the buccal surface of the tooth until it reaches the other pin where another hole is punched, and the strip is cut in the same way as at the other end. The gold band is now marked where it is to be cut away to expose the front of the tooth, and after this is done it is removed, and with a pair of small curved scissors the gold is scalloped as marked. Replace the gold on the tooth, bend the pins firmly together and burnish the gold in place. This is now longer than the tooth, and the projecting gold should be bent from the buccal surface toward the palatine, as this will draw it snugly around the tooth. Now trim off to its proper length and place the tooth in asbestos and solder the joints on the palatine surface and cervical edge.

The tooth is now in its setting, and can be used as a porcelain crown on a rootcap with pins, or as a dummy on a bridge.

Report of Committee on Materia Medica.

Dr. F. G. Gregory presented the report of the committee on materia medica, which on motion was accepted.

The report is as follows:

There has been presented to the dental profession during the past year a number of new remedies, some of them possessing very great value, others of such a nature that their value will depend upon the ability of the dentist to determine their worth.

**Suprarenal
Gland.**

The value of properly prepared solutions of the suprarenal gland in reducing local congestions of mucous membrane, as of conjunctivitis, rhinitis, pharyngitis, otitis, etc., is one of the discoveries of the closing years of the nineteenth century—legitimately following the observed effect of suprarenal medication in Addison's disease and other conditions marked by loss of vasomotor tone. Originally administered on the general principle of compensation—the patient whose adrenal or suprarenal glands were impaired being supposed to stand in need of the exact chemical compound normally secreted or elaborated by those glands—the success of the treatment in the hands of such experimenters as Dr. Geo. Oliver, of Harrogate, Eng., and others, led naturally to an analysis of the action of the remedy, and to the presumption that, as this was exerted on the heart and blood-vessels, resulting in an increase in the contractile power of the former and a toning or narrowing of the latter, it might be applied to surfaces (corneal, nasal, pharyngeal) where the capillaries were distended with blood, and, by toning or even sealing these, reduce the congestion. This hypothesis has been proved correct.

Dr. Lewis S. Somers, of Philadelphia, whose opinion is backed by at least two years' trial of the suprarenal in solution, says it is "the most powerful pure astringent and local vasomotor constrictor that we possess."

Following are some of the conditions for the relief of which suprarenal extract has been successfully applied as a local application: Urethral stricture, intertrigo, hay fever, epistaxis, laryngitis, conjunctivitis, rhinitis, acute catarrhal otitis, middle-ear congestions and granulations, and acute inflammations.

Not the least important application of suprarenal extract has been for the blanching of the tissues prior to surgical operations, such for example, as the removal of polypi or spurs, anterior turbinectomy, division of adhesions, buccal curettage, tonsillotomy, etc. It makes a bloodless field; and, although some complaint has been made of secondary post-operative hemorrhage, this can readily be avoided or controlled by repeating the

suprarenal spray when the effect of the first application has passed off, or by suitable packing.

Dr. Jokichi Takamine, with whom the scientific world has been made acquainted mainly by his work on Taka-Diastase, recently undertook the task of isolating the active principle of suprarenal gland, and in a paper read before the New York State Medical Society, held at Albany, N. Y., in January last, he stated that he had succeeded in isolating "the blood-pressure-raising principle of the gland in a stable and pure crystalline form known as adrenalin."

**Adrenalin
Chloride.**

Sterilized solution adrenalin chloride, 1:1000, in ounce vials, can be obtained, which can without trouble be further diluted when needed; the practitioner decanting as much as he requires (perhaps not more than a minim or two) and adding distilled water to physiological salt solution. The solution adrenalin chloride in the stock vial will not become flocculent if kept with ordinary care—that is, protected from extremes of heat and light. Possibly this stability may not last forever: the product is too recent to permit of dogmatic assertion on his point. But it will last for several months—so that we may say solution adrenalin chloride as marketed is practically permanent. It would seem that the dental surgeon could derive no less satisfaction than his medical brother from the use of this excellent remedy in the control of parts upon which he is called to operate, whether it be in preparing buccal and labial cavities where the slight bleeding is annoying, or for the removal of the superior maxilla where the intense hemorrhage becomes alarming.

Gomenol.

Another agent introduced quite recently, brought to light by the researches made at the Pasteur Institute by Dr. Forne and others in hospitals of France, is known as gomenol. Not only does gomenol, by its special antiseptic power, act rapidly on wounds of all nature, but it also rapidly heals the tissues—being non-toxic and non-irritating. Used in the treatment of pulpless teeth, alveolar abscesses and all lesions of the mouth, it makes an agreeable as well as an efficient agent. (Chas. Preret & Co., Paris, New York.)

**Peroxide of
Sodium.**

Peroxide of sodium has been employed as a root dressing with good results, used by packing the root canals with the crystals and allowing them to absorb the moisture from the roots.

Camphenol.

Camphenol is a combination of camphor cresols and phenols. The investigations in the Berlin Hygienic Institute, the Imperial Board of Health, of Berlin, the work of Laplace and others, have shown that the most effective

germicides are the cresols which belong to the class of phenols. In camphenol these bodies are presented in a soluble form, in which they show their highest efficiency. My conclusions were that camphenol is a soothing styptic, an efficient deodorant, and a pleasant antiseptic in interstitial gingivitis, which opinion later experiences have confirmed. Its value as a germicide can only be determined by a bacteriologist.

Nose Cup. There has been brought to the attention of your committee, an appliance that may be of service to the dentist in many ways as a prophylactic agent, employed to overcome many of the annoying features of dental work, the nose cup, made by McKesson & Robbins. Used preparatory to the administration of anæsthetics and the taking of impressions, to prevent nausea, by washing the mucous surfaces, leaving them clean and free from irritation.

Also of value in many other ways, such as preliminary to long dental operations where there is restricted breathing, or for toning the general health by inducing restful sleep, allowing full, deep, natural inhalations where extensive operations are performed within a short period. Takes its place with the tooth brush as a toilet necessity when appreciated.

MARY A. MORRISON,
FRANK G. GREGORY.

Second District Dental Society of the State of New York.

October 14th, 1901.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, October 14, 1901, at the residence of Dr. W. E. Halsey, No. 203 Jefferson avenue, Brooklyn.

The president, Dr. W. J. Turner, occupied the chair, and called the meeting to order.

The secretary read the minutes of the last meeting, which were approved.

Dr. C. P. Hyatt, Examination of Children's Teeth.

Mr. President and Fellow Members—At the State Society meeting, at Albany, a request was made by the National Dental Association for a committee to be appointed to examine the condition of the teeth of children in the public schools. Two members of the Second District Society were appointed upon that committee, and last June, in a very rapid and rushed way they were able to make examina-

tions of children in two of the public schools and in one of the three kindergarten schools. The object of these examinations is to be able to gain data of the condition of the teeth so as to present to the powers that be accurate figures that will show the neglect of children's teeth. The importance of that I think is evident to every man in the room. I would like to read a few of the figures that were taken—560 children were examined. Out of 560 only 17 did not need dental work; 2,708 cavities needed filling. Of the 560 children only 104 had fillings; 356 tests were made for the acidity of the saliva. Out of 356, 253 showed an acid condition.

That is only a cursory glance at the work that is to be done, and I have sent out letters to every member of the Second District Society. Some have probably not received theirs yet; it is quite an undertaking to write an individual letter to each. We want to examine 5,000 this fall, and one man can examine 100 children in a morning. We want each man to give up one morning, from 9 to 12, for that purpose. I was asked the other day what good would come of it, and what could be done, and when I suggested the possibility of having a law passed that children should have sound teeth before being allowed to enter school my friend held up his hands in horror and said that that was against all ideas of American freedom. "Well," I said, "so is vaccination."

If we all put our hand to the work and gain the data, we can quickly convince the public and the lawmakers of the truth of our position. Those who have not received letters will receive them later. Those who have received them, and have not yet answered, I would be obliged to them if they would reply.

I would like to ask the opinion of the gentlemen
Dr. H. C. Ferris. in regard to the treatment of a tooth. A patient presented himself to me with the lower left sixth-year molar having a very large cavity in it, and complaining of a great deal of pain. There was no swelling whatever—no inflammation—and only a tenderness to the touch of the tooth. I got his history, and it was some thing like this: He had complained of the tooth some time and went to a dentist who treated it once or twice, and finally placed in the tooth a treatment of arsenious acid. There must have been some instrumentation. He had removed the dressing himself, and I found that one of the posterior roots had a devitalized pulp in it, with the tissue perfectly healthy. The two anterior canals had just been opened, and were both in a putrescent condition, and between the two I found a bifurcation between the roots, with considerable hemorrhage. That man was suffering a great deal of pain, both from the tenderness of the tooth and an inflammation of the sub-maxillary gland. It puzzled me at that time to know how to treat the case, and I would like some opinions.

Dr. D. W. Barker. Do I understand that the former treatment had perforated through down between the roots?

Dr. Ferris. It was my belief that that had occurred. There was an opening with a hemorrhage from that point. There had been an arsenious acid treatment in that cavity evidently after the perforation.

Dr. W. E. Halsey. Is the tooth in the mouth now, and in good, healthy condition?

Dr. Ferris. Yes.

Dr. Halsey. Was there not enough arsenic to destroy the tissue?

Dr. Ferris. Yes; the man was suffering great pain.

Dr. Halsey. Naturally he would, if he had that application of arsenic.

Dr. Baker. It is a fact not generally known that solutions of iron, especially the dyalized iron, is an antidote for arsenic on the cheeks or gum. We sometimes have to apply arsenic under the gum, and sometimes we get a bad lesion on the gum or cheek, which is quite unavoidable. The application of solutions of iron on cotton to those places will cause them to heal quickly and kindly. I will not say it would have been so in this case, because I never have had a tooth where the arsenic went down through the perforation; but if it is effective on the gum or cheek, why would it not be practical to apply it at the aperture? It seems to me that is the indicated treatment.

The President. We have one with us tonight who is never found wanting when it comes to incidents of office practice. I call upon Dr. Van Woert.

Dr. F. C. Van Woert. I do not know that I can suggest anything. I know if the patient were mine, unless the tooth were very necessary, I would have it extracted.

Dr. Ferris. Suppose the patient objected.

Dr. Van Woert. That would not influence me very much. I cannot see the philosophy of taking the advice of a patient when the patient comes to you for advice. If the patient knows more about it than you do, let him have his own way; but if you know more about it, have your way.

Dr. Ferris. The patient would probably be inclined to go to some one else.

Dr. Van Woert. Well, there probably would be some one else to take his place in your office.

Dr. W. Jarvie. Dr. Barker, in speaking of the treatment with arsenic, and the treating of the lesions with iron, said often there were lesions unavoidably produced on the gum and cheeks. I cannot understand how it could get on the cheeks, and I do not see how it could unavoidably occur. It seems to me it would be a very rare case where it would be at all excusable for arsenic to get on the mucous membrane. It is so easily avoided that I never thought of getting arsenic on the cheek. It is easy to avoid getting it on the mucous surface anywhere, no matter how far or how high the cavity may occur. Sometimes arsenic in such a position causes a great deal of injury. Often-times the transverse process sloughs away, and it seems to me that any dentist who would frequently get it on the gum or cheeks must make his application in an exceedingly careless manner. Arsenic should be used as carefully as anything we use. Nothing that we have—cocaine or anything else—should be used with more caution than arsenic.

Dr. Van Woert. Is it possible to restore to a perfectly normal or healthy condition a tooth that has been perforated and arsenic applied to the periosteum? There must be more or less periosteal inflammation in the case described by Dr. Ferris. Is it probable that that tooth would ever be permanently useful? Would it not be better for the patient and safer for the dentist if it were removed immediately?

Dr. Jarvie. As to the question whether it is possible or not, I understood Dr. Ferris to say he had restored it to perfect health and comfort. Those cases, of course, occur very rarely.

Dr. Ferris. I relieved the suffering in the man's mouth about three or four days ago.

Dr. Jarvie. I remember one case, where there was a perforation at the bifurcation, and arsenic had been applied. About two years ago a gentleman came to me one Sunday evening, suffering exceedingly. He told me the pulp chamber had been opened into and arsenic applied, but the suffering had been greater. The gentleman was an old patient of mine from out of town. I took out the dressing, washed it out thoroughly, and very soon was convinced that there had been perforation at the bifurcation. The inflammation was very great at that time, and it was very angry looking all around. I extracted that tooth. There was not time to do anything else, for the patient demanded immediate relief.

Dr. Ferris. I realize that condition, of course, and my first statement to the patient was that that tooth very likely would give him trouble again, and even if I

could relieve him of pain, or save it at all, it would always be a tender tooth. The treatment over a perforation we all know is never satisfactory; at least, I have never had one satisfactory in my experience. A decided hemorrhage at that point rather encouraged me to save the tooth. He presented himself in the evening and was going to Dr. Knapp, according to Dr. Van Woert's suggestion, and I endeavored to give him relief at that time. I cauterized it with trichloroacetic acid, and, as far as I could, removed the devitalized pulp and opened into the putrescent canals; then I worked into those canals a little jodo cement, and flowed over the bifurcated spot the cement in solution and sealed that cavity tight with cotton saturated with sandarac varnish to prevent pressure on the cement, and placed a phosphate cement filling on top of that. I then made an application of an animal leech on his gum and gave him two 10-grain powders of trionol, to be taken in a glass of hot water on retiring, and also 15 grains of iodide of potassium. The gentleman went home and took one dose of the trionol and the 15 grains of iodide of potassium, and slept. He still has the tooth in his mouth. I relieved the man of pain at that time, and I did it through the agency of this cement. In my mind that cement is a very valuable article to have in one's cabinet.

Discussion of Mr. Hamlet's Address.

The President. I have often heard the profession of dentistry lauded very highly by members of our profession, and thought very often that maybe such members were a little biased in their views; but I do not think we ever heard such a tribute paid to dentistry as has been given to us tonight by Mr. Hamlet, and it is all the more satisfactory that it has come from one outside of our profession.

Dr. C. H. Meeker. When I read the announcement in the circular I thought I would like to come over and hear Mr. Hamlet, because I wanted to know what a layman can honestly say about the dentist. I supposed that he would tell us of our faults, and give us a chance to improve in our deportment, our operations and our manner towards our patients. But, gentlemen, this is beyond me. It is an iridescent dream of what we are! I never knew we were so good, and it is utterly impossible to answer him. I will go home now with a higher idea of what the dental profession is than I have ever had before.

Dr. Hyatt. The lesson I, personally, drew tonight from the address was an appeal to the members of the profession to work together to co-operate in elevating the profession; but I would like to ask a question of Mr. Hamlet, and that is

this: The mere fact of all the men present belonging to a society is a proof and evidence that they are professional men who are working for a profession, and who believe that dentistry is a science. They are not working merely for the money that comes from their operations. While that is necessary, and while we all desire a just reward for our work, it is not all. If it were we would belong to the class known as advertising dentists. So I say our presence here as members of the Second District Society is a proof of our professional feelings, and our love of the science we have undertaken.

While we realize all that has been said in regard to the importance of the teeth to mankind, I would like to ask in what way may we, as a profession, impress that truth upon the public. Our speaking to individual patients who come to our offices is all very well, but I believe earnestly that for each patient who comes to the office of a professional man there are from thirty to seventy who do not. In the course of a year there are not very many persons that each professional man can give instruction to that will be of much benefit. Is there anything Mr. Hamlet can suggest in regard to the importance of the teeth being impressed upon mankind, without the profession becoming too egotistic?

In answer to Dr. Hyatt's question I think the
Dr. E. C. Leroy. Doctor is rather circumspect in his view. I think every little word that is spoken by us in our offices is taken kindly by the patient, and the time will arrive when that little will amount to considerable. I have often taken the stand that the advertising dentists are doing considerable for the profession of today. They are educating the public up to a higher standard of dentistry, although we may not reap the benefits of it.

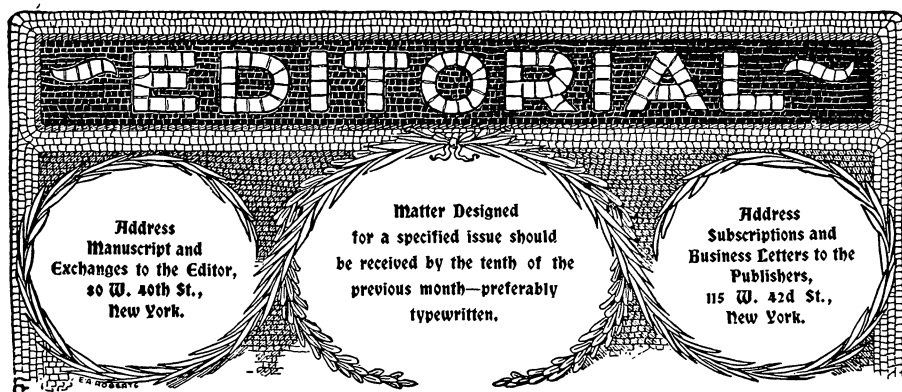
The President. If Mr. Hamlet has anything to say in closing the discussion, we would be glad to hear from him now.

Mr. Hamlet. I am very glad, indeed, to have an opportunity of responding to some of the remarks that have been made, but, gentlemen, there never was one more misunderstood than I have been this evening, for I did not intend to give you the idea that I was picturing dentists as they are, but dentists as they might be! That was my point. I believe I spoke of three different impulses, and if I did not make myself clear I wish to do so at this time. First, as I pointed out to you, was the impulse of the hand, and that you have. No one can deny that the dental profession has elevated itself to a grand development of skill. The next impulse is that of the head—that you were not only to alleviate distress, but to do it in a proper manner, that you would not leave a disfigurement, but, if possible, to improve nature.

Now, gentlemen, I come to the most important impulse of all, the one that nerves your hand to do these great things. You do that, but ask yourselves, individually, every one of you, are you doing it with the highest, the best impulse? When you do it for the professional impulse only, it is not sufficient, for that means only to the lifting up of your profession to a high and a dignified position. There is something higher than that, and that is what I wish you and all other professional men to strive for—ask yourselves the question individually—have you performed your professional tasks with the thought that this is a human deed? Have you thought, as Shakespeare has depicted, that “this is a man, and what a wonderful piece of work is man. How noble in reason and infinite in faculty and expression. In comprehension how like a god, and in action how like an angel.” If so, you can then grasp every thought that legitimately belongs to your profession, but you want to practice that profession with something of the gentleness, something of the noble impulse that the angels, too, might exercise, and that is what I mean.

Now, to answer the question whether you can elevate your profession up to that height without growing egotistical, I would emphasize the remarks of Dr. Hyatt. He has answered that for me. Every word of advice you speak, every counsel you give with regard to what people should take into their stomachs, how to avoid adulterated foods, how to conduct themselves so they may better preserve those teeth, is most valuable. I have tried somewhat scientifically—perhaps humorously—to show you what I think of the importance of the tooth—that it is the introduction, the beginning of that which nourishes life, which enables me to stand here and speak to you. It is not too great a thing to say that it lies at the foundation, and if you build upon that I think your profession would be endeared, not because of the skill and prominence you obtain, but by something better—these words of secrecy that you speak into the ears of individuals who would be impressed by them. They grow upon individuals, and as all virtues have become virtues from the first expression of an act that has been deemed of importance, and gradually has been elevated into esteem, and, after the necessity has been recognized, into a virtue, I say your actions will grow upon you and will invest your profession with the dignity—I might say the dignity already belongs to it—but a grace, a sort of benign aspect, which today it does not wear.

You are not only professional men who have around you your constituents or your clients, but you are also educators, and there is no one thing in a community of as much importance as the true educator.



Advertising Dentists, and Advertising Dentistry.

A great number of letters have reached this office calling attention to an article in a recent issue of a New York newspaper and asking for an editorial opinion thereon. The writers themselves all record views anything but complimentary.

The article in question ostensibly dealt with the progress of dentistry, and the fact that dentists are now employed in the army; but it quickly passed on to the statement that American dentistry is the best, because of the high order of our dental schools, and then there followed a eulogistic disquisition upon one particular college. In connection with the text there appeared reproductions of photographs of three men, the dean and one of the professors of the school and an American dentist of prominence in Europe, mentioned as a distinguished graduate of the same institution. It is the fact that the article was evidently written as an advertisement of the school, together with the publication of the three portraits, which is criticised and classified as unprofessional. Adverse com-

ment is also made because in the body of the article several dentists have permitted themselves to be interviewed.

In asking for editorial expression it is but too evident that these correspondents seek a reiteration of their own opinions, and are probably expecting a scathing denunciation. While in the past, we have never hesitated to condemn where it has seemed that such condemnation was merited and would operate in the interests of dental advancement, it is very far from the policy of *ITEMS OF INTEREST* to be constantly seeking an opportunity to attack some one or something.

In this instance we find it needful to take a view diametrically opposed to that which seemingly is sought. There was absolutely nothing in the newspaper article which could rightly be censured; on the contrary it was a very fine advertisement for the best that there is in dentistry. This statement leads to a brief discussion of the general subject.

Advertising dentists are of two classes, honest and dishonest. The honest advertising dentist is the man, who, because of his method of conducting his business has been ostracised by the ethical men of the profession. He is unethical because he advertises; he is honest because he seeks no subterfuge but advertises openly, using printer's ink and paying for it. But there as a dishonest advertiser who sneaks into society fellowship, pretends to support the code of ethics, and studies the rules solely with the object of evading them, always, however, keeping, if possible, within the letter of the law. One resource is the newspaper interview. Desiring the advertisement, such a man manufactures the occasion. He innocently tells things to a reporter, with whom he may be acquainted, or to some friend who knows a reporter, and when the stuff is printed he is the first to howl, and declare he had no idea that he was speaking for publication.

This has been done so often that men become suspicious of all interviews with dentists, and sometimes are precipitate in concluding that the published matter was inspired. It may sound odd to say that a newspaper interview is not necessarily unethical. The statement, however, is true. The measure of the ethics involved will be by an analysis of whether or not the printed matter extols the individual interviewed or some phase of dentistry. Whether it advertises the dentist, or dentistry. Another

test would be to discover whether the interview sought the man, or the man the interview. To make a binding law that no dentist may speak for publication would be forever to debar dentistry from receiving assistance from the press. Reporters are not expected to know of the progress in dentistry except as the information may be imparted to them by those who, having devoted years of labor and love to their profession, have at last reached a position of prominence, from which they may speak with some hope of respectful attention. Such men never seek an interview; when applied to by the press, as entitled to speak, they usually attempt to have their names suppressed; occasionally it may appear wisest to permit the use of their names in the interest of dentistry. When this is done there is never any advertisement of self in their quoted words, and the appearance of their names in print is really a personal sacrifice, made so from the known fact that so many will misinterpret their attitude. The interviews appearing in the body of the newspaper article under discussion seem to be of this character. The personal equation is entirely absent. The men have lent their words and their names to an advertisement of the fact that dentistry has reached an advanced position among the professions. They may receive the condemnation of the unthinking, and the praise of a very small minority.

**Advertising
Dentistry.**

In this era when the press is the most powerful lever in the affairs of mankind, it would be stupid indeed for any class of students to scorn the aid that may be had for the asking. Medicine holds a proud position, and certainly the medical man is as rigid in his code as the dentist, yet every step forward is immediately heralded to the world through the medium of the press. Every discovery, every achievement of the workers in the medical and allied fields is communicated to the people by public announcement and interviews, not alone with the originators, but with those competent to express opinions upon the advanced theories. In New York City, Dr. Shrady, the editor of the *Medical Record*, is constantly granting interviews on medical topics. Indeed he is quoted in this very newspaper article, though the subject is "dentists in the army." Does any one accuse Dr. Shrady of a breach of the code? Why not? Because he is approached by the interviewer as an authority; he is the editor of a leading medical journal, and consequently it is but natural that newspaper

this instance, in the least advance the interests of the men, since it is the dental department of a university. Were it a proprietary dental school, the private business enterprise of the teachers, the discussion might take a different direction, but such is not the case.

Judgment Against International Tooth Crown Company.

As we go to press we note the following, which is a clipping from the "New York Sun":

DENTISTS UPSET PATENT JUDGMENT.

Judge Townshend, in the United States Circuit Court, has vacated a decree and judgment entered by him in 1895 in the case of the International Tooth Crown Company against James Erroll Fyle, affirming the validity of a patent for bridgework in dentistry, owned by the plaintiffs. It has since been shown to the Judge's satisfaction, through the efforts of the Dental Protective Association, that the judgment was obtained by collusion. The defendant was the brother-in-law of Lucius T. Sheffield, President of the plaintiff's company, and the association alleges that the company made a large amount of money on the strength of the judgment, and was eager to obtain a similar judgment against a member of the Dental Protective Association.





THE EDITOR'S CORNER

With malice
toward none,
with charity
for all.

Questions will be answered in this department, provided the answers would be of general interest. After publication our readers are cordially invited to make further reply, criticism or comment.



We are in receipt of the description of the following case from Dr. Geo. H. Pickburn, of South Brisbane, Queensland, Australia, and would ask our readers to reply to the gentleman's query if they have ever had any such case come under their notice:

"I would like to ask through the medium of your widely circulated journal, if any gentleman has had any experience in a case of the following nature:

Mouth to Mouth Inflation.

"Some time ago a patient, a short, stout gentleman, called on a brother practitioner to have a left lower bicuspid extracted. I was present at the time. He desired to have gas. Accordingly he removed his collar, tie, opened his vest and generally made himself comfortable. I turned on the gas, my friend taking charge of the patient. In half a minute after inhaling it, he suddenly changed color, eyes became red, pupils contracted and turned up and breathing ceased. It is needless to say I shut off the gas, the inhaler went to

the floor and the chair was tilted back. The arms were raised above the head and brought down, pressure brought to bear on the thorax so as to press the blood from the lungs. After some time, it seemed an age, I remembered a method used in a somewhat similar case I saw in England twenty years ago, viz., mouth to mouth inflation. My friend at once adopted this method, and after four or five strong inspirations we had the satisfaction of seeing the color return to the cheek, the eyes slowly open and breathing assume its natural function.

"This is a most disagreeable operation to perform, especially when, as in this case, the beard has been soaped, but under the circumstances something out of the ordinary methods had to be adopted. Intemperance cannot be taken into account, the patient having been for many years a total abstainer.

"Now what I would like to know is, what effect has the carbonic acid given off from the lungs of the operator while inflating the lungs of the patient? Is it not supposed to be a poison? If so, how comes it about that it seems to neutralize the nitrous oxide?

"It seems clear to my mind that the blood must have quickly absorbed the gas, owing to the lividity of the face and mucous membranes.

"This being a subject interesting, I venture to say, to every member of our profession, I should like to know what is the general opinion of mouth to mouth inflation? Could the inflation of the patient's lungs be successfully accomplished by using, say a six inch glass tube, inserting it well in the patient's mouth and the operator's, or using a pair of bellows?"

There is a great deal of interest manifested whenever the discussion arises as to the relative advantages of the so-called proprietary school, which is owned and managed exclusively by dentists, and the dental department in a medical school or university. The main objection to the proprietary school is that as the professors are the owners, they are always open to the accusation, whether well founded or not, that the infirmary is managed as a source of private profit. In this respect the university schools, wherein all the teachers receive a specified compensation and consequently have no interest in the infirmary receipts or other revenues, are less open to criticism. There is a more or less valid objection to the university school however, which is sometimes offered, and that is that a large share of the training falls upon the shoulders of medical men who take little, if any, interest in the dental students. As bearing on this point we publish a letter, the original of which is in our possession. A certain

**Medical Teachers
in Dental Schools.**

manufacturer sent some samples of his product to the Dean of the Dental Department of a prominent Medical School, and received the following in reply:

"I am not a dentist and have no earthly use for dental material but, owing to my nominal position as Dean of the Dental Faculty, am flooded with dental literature and samples. I never read the literature nor use the samples, but consign them without further ado to the waste basket. I do not know whether any samples came from you, or whether they had any value, but I certainly shall not hold myself responsible for them, for I do not recognize the right of any man to dump his property on to me and require me to take care of it. You will have to credit the amount to profit and loss."

As showing a special interest in the dental department of his school, this Dean has certainly made a record in the above letter. The manufacturers alluded to have no connection whatever with the publishers of *ITEMS OF INTEREST*.

**Cusps for
Gold Crowns.**

Dr. Thos. Larseneur, of Chicago, Ill., describes his method of producing cusps for gold crowns as follows: He says: "It often occurs that we cannot find the right sized cusps for a gold crown, those furnished by dealers being either too small or too large. In such cases, I select a plain porcelain rubber tooth which fits my gold band. I invest the tooth in Melotte's moldine, making a disk about half an inch thick and a trifle larger than the rubber ring which comes with Melotte's outfit, the cusp of the tooth only being left uncovered. The ring is then carefully pressed down on the disk and held firmly in position to prevent the escape of the metal when pouring. Fusible metal is used and poured into the ring. When cold, remove the die and you will have a perfect reproduction of the cusps without having injured the porcelain tooth. The gold cusp is then spread in the usual manner, and you will have a perfect fit for the band. This method is especially practicable when dealing with very small bicuspid and molars."

Through the Secretary of the National Association of Dental Examiners, we are in a position to expose another diploma mill. It appears that one Jesse M. Belber applied for a license to practice to the Board of Examiners of the State of Ohio, stating that he had a diploma from a school in Jersey City. The Secretary of the Ohio Board, of course, knew that no dental school exists in that section, but encouraged the applicant to take the examination and notified him

**Bogus Diplomas Dis-
covered by N. A. D. E.**

to bring his diploma. When he appeared, he presented two diplomas, both of which were photographed for future use. The two diplomas read as follows:

CENTRAL UNIVERSITY OF MEDICINE AND SCIENCE,

Jersey City, N. J.

Incorporated under the Laws of the State of New Jersey.

To All To Whom These Presents Shall Come, Greeting:

Be it known unto all men, that the Faculty, Officers and Board of Examiners of the Central University of Medicine and Science having received satisfactory evidence of the Eminent Attainments, Qualifications, Experience, Knowledge, Learning and Skill of

Jesse M. Belber,

and deeming him well worthy of the distinction and honor bestowed; do, by these presents, and by virtue of the authority and power vested in them by the State of New Jersey hereby confer upon him the Honorary Degree of

Doctor of Dental Surgery.

And in witness whereof we have set the seal of the University and affixed the signatures of the officers thereof at Jersey City, State of New Jersey, this 12th day of September, 1901.

J. W. NORTON SMITH, M.A., A.S.,
LL.D., Pres.

Board of Examiners.

WM. MCCLINTOCK, D.D.,

GEO. ARTHUR LEWIS, Ph.G., Sec'y.

JOHN C. KLINE, Prof. Chi. A.M.,

JAMES DAVIS, A.M., M.D., D.D.,

BENJAMIN E. STEVENSON, A.M.,
D.D.

PHILADELPHIA SCHOOL OF ANATOMY.

This is to Certify that Jesse M. Belber, of Roumania, City of Yossa, has attended one Course of

Lectures on Anatomy

and has Dissected during one Course in the

Philadelphia School of Anatomy,

and after an examination held February 22nd, 1900, has been awarded this Certificate for proficiency in Practical Anatomy.

In Testimony Whereof I have hereunto affixed my hand and the Seal of the Institution this 31st day of March, 1900.

W. WALLCE FRITZ, M.D., Prof. Anatomy and Surgery.

It is to be noted that the first of these is issued by J. W. Norton Smith, the gentleman who has numerous degrees after his name. In this connection, the following clipping from a New York newspaper is pertinent:

"Washington, Jan. 11.—The Postmaster-General has issued an order denying the use of the mails to the 'Central University of Medicine and Science,' and J. W. Norton Smith, president, 68 Montgomery street, Jersey City. The university represented that it was an incorporated institution in good standing and that it had an extensive medical faculty. To those desiring to practice medicine the University of Medicine and Science sold diplomas at prices ranging from \$5 to \$20, according to the ability of the prospective M.D. to pay.

"The scheme is identical to that operated in Chicago by James Armstrong, under the title of the Metropolitan Medical College. Armstrong was tried before Judge Kohlsaat in the United States Circuit Court and sentenced to one year in jail. The Department of Justice will probably take action against J. W. Norton Smith, who is named in the fraud order as the promoter of the present scheme."

By the action of the Secretary of the National Association of Dental Examiners in furnishing this matter for publication, warning is thus promptly given to the examining boards throughout the country to be on the look out for "graduates" from either of these two schools.

**Wisconsin Board
Sustained.**

The Supreme Court, by a recent decision, has sustained the action of the State Board of Dental Examiners for the State of Wisconsin in regard to the Dental Department of the Wisconsin College of Physicians and Surgeons, and thus formally establishes the right of the Board to fix its own standard. The Board had declared the college not reputable, and had declined to license its graduates without examination. Mandamus proceedings were begun by W. L. Coffey who claimed that there was a malicious conspiracy on the part of the members of the Board against the college. The case was tried before Judge Elliot in the circuit court for Milwaukee county, who held that the Board had legal right to establish a reasonable standard and, that such standard being established, the court could not interfere. He also declared however, the Board had erred in not going to the school in a body and making an examination before declaring that the college was not up to the standard. The Supreme Court declares that the lower court had no right to question the method adopted by the Board in determining the standard. In closing his opinion Justice Marshall says:

"With the question of whether the trial court determined correctly, upon the evidence before it, the question of the reputability of the Wisconsin college, we have no concern since as indicated the

whole proceedings as a trial *de novo* was erroneous. The trial court should have viewed the decision of the Board from their standpoint and not from its original investigation on the subject. We are unable to perceive that the Board exceeded its discretionary power or so failed to exercise such power as to be guilty of the abuse thereof."

The following clipping from the Milwaukee
Unlicensed Dentists (Wis.) "Sentinel" will be of interest to dentists
May Collect. in that State, and should receive the attention of
all the profession since the matter has not been
thoroughly tested in other States:

"An interesting decision governing the relations between dentists and dental boards in Wisconsin was rendered by Judge Williams in the suit of Dentist F. C. Moloy against John Heffron, brought to collect a dentist's bill. The court held that while a dentist is prevented by law from practicing until he has a license from the State Board of Dental Examiners, he may recover for services performed without a license.

"The decision was given in denying an application for a new trial made in behalf of the defendant, John Heffron. The suit was begun in a Justice court. On appeal a Supreme Court jury awarded the plaintiff a verdict for \$6.50, and judgment was entered. In the motion to set aside the judgment and for a new trial, the defendant's attorney claimed that new evidence had been discovered. The evidence was that the services for which Dr. Moloy brought suit were performed three months before the license was given. Dr. Moloy applied for the license in April, did the work for Heffron in June, and received the license in September. Heffron's attorney contended that it was unlawful for a person to practice dentistry until the license had been issued.

"Judge Williams ruled that the statute did not prohibit recovery for services rendered. The statute, he contended, merely imposed a penalty for practicing. He ruled, further, that the testimony was not admissible under the pleadings."

It is noteworthy that the decision here recorded is exactly the reverse of the English law. If we are rightly informed, no dentist is a legal practitioner in England without registration, which is accorded upon certain rules. It is considered, though, that it interferes with personal liberty to prevent a man from earning a living by whatever means he may elect. The illegal practitioner, however, has no redress in a suit at law in an attempt to collect a bill, nor has he any standing as defendant in suits for damages; in fact, not having complied with the law, the law will not protect him.

The following is a copy of a bill which has been introduced into Congress, which aims to establish a Dental Corps for the Navy:

57th Congress, 1st Session. S. 2519. In the Senate of the United States, January 8, 1902. Mr. Pettus introduced the following bill, which was read twice and referred to the Committee on Naval Affairs:

A bill to add surgeons to the Medical Corps of the Navy.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That to the Medical Corps of the Navy there shall be attached a corps of dental surgeons to serve the officers, enlisted men, and boys in the naval military service and training schools, which corps shall not exceed in number the proportion of one to one thousand authorized by law for said service and schools.

The said dental corps shall consist of three grades, designated assistant dental surgeon, passed assistant dental surgeon, and dental surgeon, and with respect to rank, pay, and allowances and to promotion within said dental corps the grades named shall correspond to the grades of the medical corps designated assistant surgeon, passed assistant medical surgeon, and surgeon, respectively.

Sec. 2. That original appointments shall be made to the grade of assistant dental surgeon and the appointees must be citizens of the United States, between twenty-three and thirty-three years of age, graduates of standard dental colleges, with not less than two years' subsequent experience in practice, of good moral character, of unquestionable professional repute, and shall be required to pass a satisfactory physical and professional examination: *Provided*, That there shall first be selected a member of the dental profession who is a graduate of a standard dental college and whose aptitude and experience evidence eminent fitness for conducting the professional examinations herein provided for, and for otherwise assisting in organizing, equipping, and supervising the operations of the corps, who shall be first appointed to the grade of dental surgeon.

It is to be noted that this bill would give the dentists in the navy rank and position. It is rumored that the bill will be reported, amended so that the dentists should be classed as hospital stewards. As this would be a degradation, protests should be promptly sent addressed to the Surgeon General of the Navy.

Dr. G. B. Perl, of Kobe, Japan, sends us the following curious specimen of a circular issued in Japan in the English language, which is given space as a curiosity:

**A Curious
Dental Circular.**

Dr. Watanabe, Dentist, Kitanagasadori 3 Chome, Kobe (a few doors north of the "Anamon Bridge" of the Sannomiya Station). Office hours, from 8 a. m. to 6 p. m., except if a patient requires treatment after office hours.

It is the same opinion all over the world, that our teeth should not be neglected, as various sickness and disease are apt to be caused by its negligence.

But most of the patients leave it, until the last day, imagining a painfulness of the operation, or some time, of an exorbitant charge from an inferior dentist whose service may, in few years, require a retreatment. Now Dr. Watanabe laid the fair and generous proposition to all his patients. It costs his patrons no pain and less money, but the best and durable service in the bargain, which your kind attention to the few lines below will assure you.

1. Dr. Watanabe's method of treatment is painless.
2. He does not believe in extracting and saves teeth as sure as he can replace them, unless the teeth are decayed in such manner, as beyond the capacity of his skilful treatment. The extraction of a decayed tooth is naturally painless.

3. A written guarantee is given to all his patients whose teeth are filled with gold or silver as also making a plate; in case of any disorder or the requirement of retreatment, the same will be refixed without any charge, no matter how often the case may be.

If the filling was, after the consent of the patient, made on a bad foundation, through which causes loosening by the gradual fractuation of the tooth, then this is considered an exception.

4. All patients receive a present of tooth powder which was prepared by himself, for the reason that injury to the dentine or ivory, or the gums are caused by using inferior tooth powder.

5. If a patient desires treatment at home, he will be charged extra for the same.

6. A house servant of poor circumstances is allowed 20 per cent. discount or more, from the fixed charges, providing they make an application before the engagements.

7. His fees are as follows: To stop an aching, from 10c. to 25c.; for extracting a tooth, from 15c. to 80c.; for cleaning tooth, from yen \$1.00 to yen \$1.50; for filling with gold, from yen \$1.50 to yen \$10.00; for filling with platinum, from yen \$1.00 to yen \$2.50; for filling with cement, from 80c. to yen \$2.00; for ordinal silver filling, from 70c. to yen \$1.60; for rubber filling, from 25c. to 60c.; for a plate, from yen \$1.00 to yen \$4.00; a plate with a set of teeth, from yen \$2.50 to yen \$10.00.



Prof. Charles J. Essig.

Died, at his summer residence, Wallingford, Delaware County, Pa., December 2, 1901, of pneumonia, Prof. Charles J. Essig.

Dr. Essig was born in Philadelphia, July 23, 1841. He received his education at the public schools. When a little more than sixteen years of age, September 10, 1857, he entered as an apprentice, William R. Hall's dental laboratory. It was an excellent school, for Mr. Hall as a mechanical dentist and porcelain block carver was a skilled workman, and his busy laboratory provided for his young apprentice ample opportunities to learn the art and mystery of mechanical dentistry in all its branches. Possessing, as he did, a taste for mechanics, a love for precision, an ambition to excel, and a full share of push and energy, he proved an apt pupil. After about five years service with Mr. Hall, he purchased from him the goodwill of the business and opened a laboratory of his own. He was at this time regarded by the profession as a skilful workman. His work was marked by an accuracy and artistic finish equaled by few; this, with his excellent judgment in aiding his patrons with suggestions, his readiness to comprehend and execute their directions, and his reputation for reliability and promptness, commended him to the better class of dentists.

February, 1867, he relinquished this business to Messrs. Clemson and Ford, and in partnership with Mr. Charles S. Jones opened a dental depot and dental laboratory in Baltimore, dealing mainly in goods made by S. S. White. The partnership lasted but a short time, Mr. Jones retired from the firm, and Dr. Essig continued the business in his own name.

In the fall of 1869, he returned to Philadelphia, opened a dental laboratory, and began his career as a dental teacher by accepting the position of demonstrator of mechanical dentistry in the Philadelphia Dental College, serving in this capacity two sessions. In recognition of his ability, the college conferred upon him, February, 24, 1871, the title of D.D.S., as an honorary degree.

Later he entered as a student the Jefferson Medical College, of Philadelphia, from which he graduated in 1876.

January 5, 1870, he entered into business relations with Dr. Louis Jack, of Philadelphia, and from this dates his entrance into actual dental practice. This association continued until October, 1875; he retained,

however, his office in Dr. Jack's house until about 1883, when he removed to 1700 Locust street, where he was at the time of his death.

Dr. Essig married in 1868, Mary Sturges, of Philadelphia, who survives him. He left two sons, both graduates of the University of Pennsylvania, and both engaged in dental practice at 1700 Locust street, Philadelphia.

Dr. Essig was a skilful operator and especially successful in prosthetics. His long experience in the dental laboratory naturally developed an expertness in solving the mechanical problems constantly met with in this branch of dental practice, and enabled him to devise ways and means to judiciously compromise artistic and practicable possibilities to secure the best results.

He early manifested a keen interest in the unselfish side of professional affairs, taking as active a part in society work as the many claims on his time permitted. He served in various capacities, contributed papers, and participated freely in discussions, was always considerate to those who differed, and under all circumstances preserved the equipoise of a professional gentleman. As secretary of the Association for the Protection of the Rights of Dentists, an association organized to resist the unjust claims of the Goodyear Dental Vulcanite Company, he rendered a signal service to the profession by purchasing a patent granted to S. D. Engle, of Hazleton, Luzerne County, Pa., No. 42,933, dated May 31, 1864, covering the method of mounting teeth upon metallic plates now known as "rubber attachments," with the object of transferring the same to the association. It was found that this could not be legally done. The association thereon reimbursed Dr. Essig for the expense incurred, and as the letters patent had been assigned to him personally, directed that he properly dedicate and assign the same to the public. This he immediately did.

He will, perhaps, be longest remembered as a dental educator. On the death of Dr. Wildman, he succeeded him in the faculty of the Pennsylvania College of Dental Surgery as dean, and as Professor of Mechanical Dentistry and Metallurgy, at the commencement of the twenty-first annual session, September, 1876, retaining the position during the following session. About this time the University of Pennsylvania having moved from the center of the city to a site inviting expansion, decided to organize a dental department, and made overtures looking to a union with the Pennsylvania College of Dental Surgery. This did not meet with the unanimous approval of the faculty and was rejected. Drs. Essig, Darby, Barker and Tyson, of the faculty, were, however, so fully impressed with the advantages offered that they resigned, and proceeded to organize for the university a dental department. Dr. Barker died January 10, 1878.

The organization was completed February, 1878, with Dr. Essig as dean or secretary, and professor of prosthetic dentistry and metallurgy; Dr. Edwin T. Darby, professor of operative dentistry; the other chairs being occupied by the regular medical staff of the university, the dental students receiving their instruction in those branches with the medical students. The movement was a success from the first. Dr. Essig was especially well qualified for the position which he assumed and retained until, feeling the burden becoming wearisome, he resigned last June. He was thoroughly master of the subjects which he taught, and had the happy faculty of making things plain without visible effort. He was a master draftsman, and was able to present ideas through the eye by a few rapidly made strokes of the crayon or pencil more lucidly than could be done by spoken words; he made the pencil or crayon talk. He had, withal, a commanding presence, a quiet, unassuming dignity as he stood before his class, that demanded attention and invited respect. The university was exceptionally fortunate in securing two such well qualified teachers as Drs. Essig and Darby to inaugurate its new department, especially so as the success of this, its first venture, was the beginning of a marvelous expansion.

Dr. Essig is identified with the permanent literature of his profession by two notable works; first, his little manual on Chemistry and Metallurgy; and second, *The American Text-Book of Prosthetic Dentistry*, prepared under his editorial supervision.

Dr. Essig's life furnishes an inspiring example of what may be done. Beginning life with but meagre educational and social advantages he reached an eminence in his profession attained by few. Referring to him his preceptor, Mr. Hall, writes: "Dr. Charles J. Essig made himself all that he was by his own push and energy." No greater compliment can be paid to a successful man than this, a compliment well merited by our departed brother.

W. H. T.

Resolution Passed by the Second District Dental Society.

Through the will of an all-wise and merciful Creator we are called upon to mourn the loss of one of the most distinguished members of the dental profession, Prof. Charles J. Essig, who departed this life on December 2, 1901. Beginning the study of dentistry in 1857 he had devoted forty-five years to his chosen field of labor, during which time he not alone served those patients who were fortunate enough to be counted among his clientele, but he made himself honored and esteemed among the dental fraternity by his untiring zeal as an educator; as an active member in society work; and, in one conspicuous instance, by an unselfish act in

behalf of all members of his profession. In the long war waged between the dentists and the Vulcanite Company, Dr. Essig was secretary of the Association for the Protection of the Rights of Dentists. At his own personal expense he purchased a patent covering the method of attaching teeth to metallic plates by uniting them thereto with vulcanite, a method which has been continuously useful through all the subsequent years. This patent Dr. Essig held in trust for the dentists and dedicated to the service of the public.

Dr. Essig was one of the organizers and was the first dean of the dental department of the University of Pennsylvania in 1878, and filled the chair of prosthetic dentistry from then until last June, when he voluntarily resigned.

He also made himself widely known through his contributions to dental literature, and it is in this respect that we miss him most keenly tonight, as only a few weeks prior to his death he had promised to be one of the essayists to take part in the discussion to hear which we are now assembled.

Resolved, That in the death of Dr. Charles J. Essig the members of the Second District Dental Society have suffered a loss in common with and beyond that of the rest of the dental world. Through associations in the past, they had learned to love him as a friend, respect him for achievements, and honor him as a Christian gentleman and as a man. *Requiescat in Pace.*

Resolved, That the sincerest sympathy and expression of condolence be extended to the bereaved family who survive him.

Resolved, That a page of our records be reserved in honor of Dr. Essig, and that these resolutions be spread thereon; also that copies of these resolutions be sent to the leading dental journals for publication, and to the family.

Committee: R. OTTOLENGUI.
J. A. SCHMIDT,
L. SHAW.





National Society Meetings.

- National Dental Association, Niagara Falls, N. Y., Aug. 5, 6, 7.
National Association of Dental Examiners, Niagara Falls, N. Y.,
Aug. 1.
National Association of Dental Faculties, Niagara Falls, N. Y.,
July 31.
-

State Society Meetings.

- California State Dental Association, San Francisco, June 10.
Colorado State Dental Association, Colorado Springs, June 17, 18, 19.
Connecticut State Dental Association, Hartford, May 19, 20.
Delaware State Dental Society, Wilmington, July 2.
District of Columbia Dental Society, Washington, Dec. 16.
Florida State Dental Society, Daytona Beach, Daytona, May 28.
Georgia State Dental Society, Macon, June 10.
Illinois State Dental Society, Springfield, May 13, 14, 15.
Indiana State Dental Association, Lake Maxinkuckee, June 24, 25, 26.
Kansas State Dental Association, Hutchinson, May 13, 14, 15.
Maine Dental Society, Camden, July 15, 16, 17.
Maryland State Dental Association, Baltimore, Jan. 30.
Michigan Dental Association, Grand Rapids, June.
Minnesota State Dental Association, St. Paul.
Mississippi Dental Association, Biloxi, May 20, 21, 22.
Missouri State Dental Association, Jefferson City, May 21, 22, 23.
Nebraska State Dental Society, Lincoln, May 20.
New Jersey State Dental Society, Asbury Park, July 16, 17, 18.
New York State Dental Society, Albany, May 14, 15.
North Carolina Dental Society, Raleigh, June 19, 20, 21.
Ohio State Dental Society, Columbus, Dec. 2, 3, 4.

Pennsylvania State Dental Society, Bedford Springs, July 8, 9, 10.
Rhode Island Dental Society, July 8.
Tennessee Dental Association, Monteagle, July 1.
Texas State Dental Association, Waco, May 13, 14, 15.
Vermont State Dental Society, Rutland, March 19, 20, 21.
Wisconsin State Dental Society, Milwaukee, July 15, 16, 17.

Southern Branch National Dental Association.

The fifth annual meeting of the Southern Branch of the National Dental Association will be held at Atlanta, February 18th, 1902. The association will be in session four days. Atlanta is now the best located and equipped city in the South for holding such a meeting. This fact assures a large attendance.

The Southeastern Passenger Association will give a rate of one and one-third fare for the round trip on the certificate plan. They will also give an extension of ten days after the close of the meeting so as to enable those attending the association to visit the Charleston Exposition. A cheap round trip ticket from Atlanta to Charleston will be on sale. An effort will be made to have a special train for the dentists. Delegates living beyond the territory of the Southeastern Passenger Association can purchase a winter tourist ticket to Charleston by way of Atlanta, as these tickets have a stop-off privilege of fifteen days at Atlanta.

H. H. JOHNSON, Pres., S. B. N. D. A., Macon, Ga.

C. L. ALEXANDER, Cor. Sec'y, S. B. D. A., Charlotte, N. C.

Bi-State Dental Meeting.

At a Bi-State Dental meeting of the Northern Indiana and the Southwestern Michigan Dental Societies in September, 1901, at Goshen, Ind., the following officers were elected for the ensuing year:

For the Northern Indiana Society: President, F. G. Conklin, South Bend; vice-president, F. M. Burkett, Plymouth; secretary and treasurer, M. A. Payne, Wabash.

For the Southwestern Michigan Society: President, C. R. Rowley, Chicago, Ill.; vice-president, Ruel M. Speer, Battle Creek; secretary and treasurer, C. W. Johnson, Lawton.

The next convention will be held in South Bend, Ind., September, 1902.

M. A. PAYNE.

Wabash, Ind.

G. V. Black Dental Club.

The G. V. Black Dental Club will hold its third public clinic in St. Paul, on Feb. 20th, 21st, 22d. All dentists are cordially invited to attend.

J. M. WALLS, Sec'y.

St. Paul, Minn.

Southern California Dental Association.

The fourth annual meeting of the Southern California Dental Association was held in Los Angeles, October 8th and 9th. It was the most interesting and largely attended meeting ever held in Southern California, twenty new members joining the association. The reports of the officers showed the society to be in a very prosperous condition.

The following officers were elected for the ensuing year: E. G. Howard, Los Angeles, president; M. E. Tabor, Riverside, first vice-president; M. Evangeline Jordan, Los Angeles, second vice-president; J. M. White, Los Angeles, treasurer; L. E. Ford, Los Angeles, secretary.

The most important feature brought before the society at this meeting was the subject of the Care of Children's Teeth. This society has undertaken to distribute to each child in the public schools throughout Southern California, between the ages of six and fifteen years, a pamphlet, which shall be taken home to the parents. In this pamphlet has been incorporated such matter as all parents should be familiar with in the care of children's teeth, the hope being that by the education of the parents in this respect the children will be benefited. Part of the matter used was taken from a pamphlet entitled "Teeth" issued by the California State Dental Society.

L. E. FORD, Secretary.

307 S. Broadway, Los Angeles, Cal.

Alumni Association of Northwestern University Dental School.

The Alumni Association of Northwestern University Dental School will hold their annual clinic Thursday, February 22, 1902, at the college building, corner Madison and Franklin streets, Chicago. All members of the profession are invited to attend.

A. V. HARGETT, President.

G. B. MACFARLANE, Secretary,
70 State street.